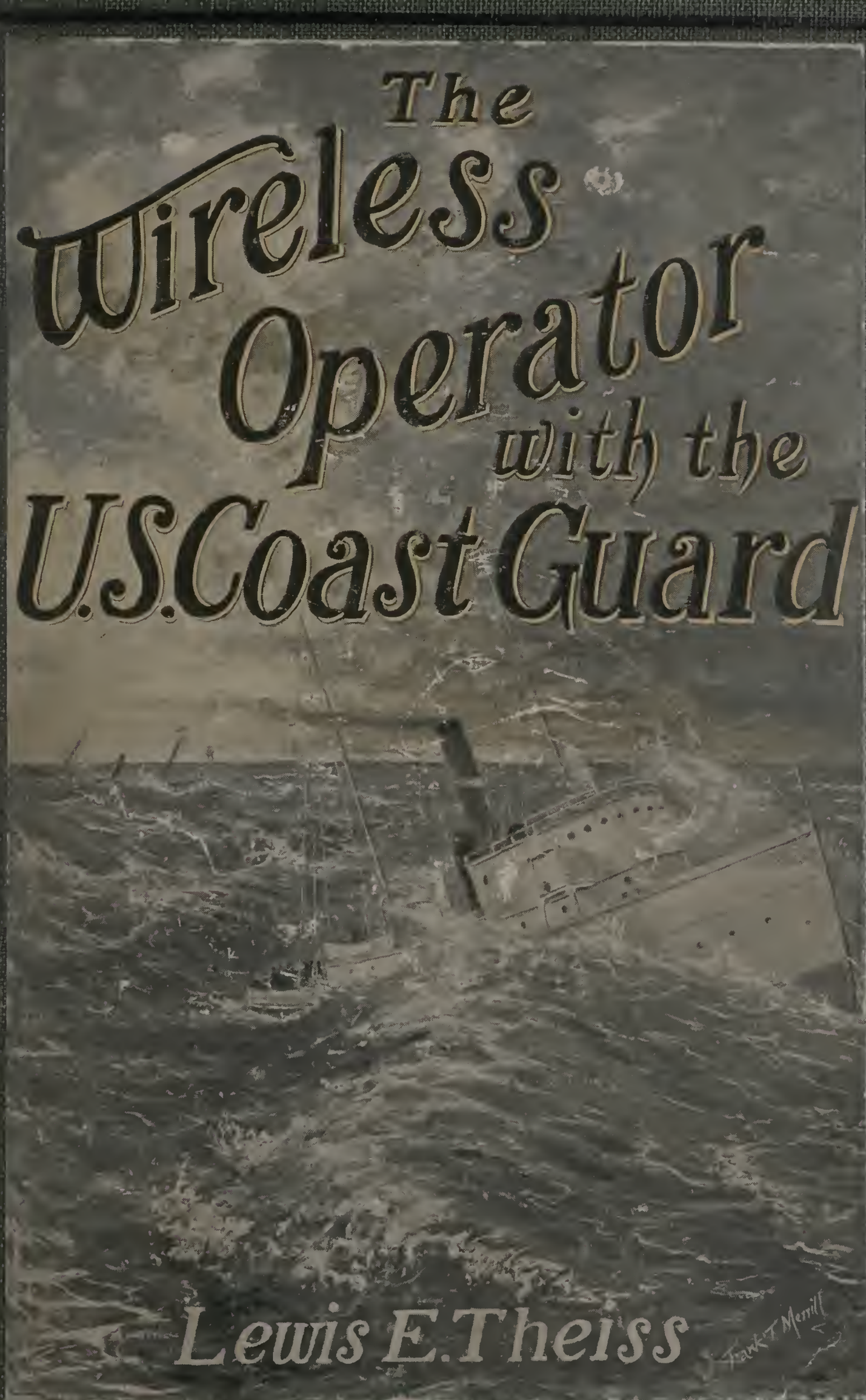
The Wireless Operator with the U.S. Coast Guard



Lewis E. Theiss

Frank T. Merrill

THE LIBRARY OF CONGRESS
1800

Class PZ7
Book T342
Copyright No. Wis

COPYRIGHT DEPOSIT.

The Wireless Operator—
With the U. S. Coast Guard

BOOKS BY

LEWIS E. THEISS

IN CAMP AT FORT BRADY. A Camping Story. 304 pages.

HIS BIG BROTHER. A Story of the Struggles and Triumphs of a Little Son of Liberty. 320 pages.

LUMBERJACK BOB. A Tale of the Alleghanies. 320 pages.

THE WIRELESS PATROL AT CAMP BRADY. A Story of How the Boy Campers, Through Their Knowledge of Wireless, "Did Their Bit." 320 pages.

THE SECRET WIRELESS. A Story of the Camp Brady Patrol. 320 pages.

THE HIDDEN AERIAL. The Spy Line on the Mountain. 332 pages.

THE YOUNG WIRELESS OPERATOR—AFLOAT. How Roy Mercer Won His Spurs in the Merchant Marine. 320 pages.

THE YOUNG WIRELESS OPERATOR—AS A FIRE PATROL. The Story of a Young Wireless Amateur Who Made Good as a Fire Patrol. 352 pages.

THE YOUNG WIRELESS OPERATOR—WITH THE OYSTER FLEET. How Alec Cunningham Won His Way to the Top in the Oyster Business. 328 pages.

Cloth Bound—Illustrated by Colored Plates and Photographs

A U. S. Coast Guard Cutter Surrounded by Icebergs

The Wireless Operator—With the U. S. Coast Guard

By
LEWIS EDWIN THEISS

W. A. WILDE COMPANY
BOSTON CHICAGO

PZ 7
T342
Wis

Appreciation is herewith extended to the United States Coast Guard and the International Newsreel for the use of photographic material.

Copyrighted, 1924,
By W. A. Wilde Company
All rights reserved

©Cl A807610

The Wireless Operator—
With the U. S. Coast Guard

Made in U. S. A.

OCT 31 '24

m. v. g. n. 3-24.

To those unsung heroes,
the men of the U. S. Coast Guard,
this book is dedicated

AUTHOR'S INTRODUCTION

AMONG all the various arms of government in our nation, no arm is at once less known or more worthy of renown than the Coast Guard. Like the knights of the Table Round, this company of gallant surfmen and sailors is organized and exists almost solely for the protection of others. Though few in numbers, the Coast Guard accomplishes deeds that are mighty. Skill of the highest order, daring incredible, and discipline that is perfect, make a giant of this little service. Stout of heart, indeed, must be the men who belong to it; for when others are fleeing for their lives, the Coast Guard is always heading straight for the danger, to rescue those incompetent or unable to effect their own rescue. Let those who think the age of romance is past but read the story of the Coast Guard and they will change their minds.

For those who demand that fiction be based upon actual occurrence, the author wishes to say that this book is hardly more than a transcript from life. Every major incident in it is based upon an actual happening. It was the Coast Guard cutter *Yamacraw* that lost six boatloads of seamen in the surf while attempting to rescue

a helpless steamer. It was the *Seneca* that searched the wintry seas for the helpless oil tanker that had been abandoned by the tug towing it. And the final incident in the book, in which a stricken freighter sinks in a storm, and the wireless operator ministers calmly to his commander in the face of almost certain death, is but a poor attempt to recite the story of "Smiling Jimmy Nevins," a mere lad, who went smiling to his death as a member of a volunteer crew from the *Seneca,* in an effort to save a torpedoed freighter for the Allies during the recent World War.

In preparation for the writing of this story, the author spent some time aboard both the *Seneca* and the *Tampa.* He wishes here to express his admiration for the Coast Guard as a whole, and his very great indebtedness to Captain B. H. Camden, of the *Seneca,* Captain Wm. J. Wheeler, of the *Tampa,* Lieutenant C. C. Von Paulson, of the *Tampa,* and Chief Electrician Belton Miller, of the *Seneca,* for their kindly assistance. Each of the four has played a heroic part in some of the deeds portrayed in this book.

LEWIS E. THEISS.

Lewisburg, Pa.
February 28, 1923.

FOREWORD

Reading into the present the history of the early mariner along our shores, one is impressed with the march of civilization. Institutions having for their purpose the saving of human life are products of civilization—a part of the great scheme of humanization.

This volume, dedicated "To those unsung heroes, the men of the U. S. Coast Guard," is an interesting, an engaging, and a compelling portrayal of the everyday work of the Coast Guard, with its vicissitudes, hardships, perils and accomplishments. The Coast Guard in fact is an establishment of service and opportunity — service to those whose fortunes are cast with the deep and along our shores, opportunity for the young men of the nation of character, stability and fixedness of purpose, to follow the Stars and Stripes in the ever-beautiful cause of humanity.

F. C. BILLARD, Rear Admiral,
U. S. Coast Guard, Commandant

CONTENTS

I.	Henry Seeks His Fortune	13
II.	A Fight for Life	29
III.	The Search for the Derelict	43
IV.	The Watch in the Dark	58
V.	The Destruction of the Derelict	72
VI.	A Call for Help	88
VII.	A Tramp of the Seas	102
VIII.	In the Cradle of the Deep	115
IX.	The City of Paul Revere	127
X.	A Ship in Distress	146
XI.	Lost in the Sea	162
XII.	The Rescue	172
XIII.	Henry Finds He Has an Enemy	186
XIV.	A Catastrophe	196
XV.	Under a Cloud	208
XVI.	The Mystery Grows Deeper	218
XVII.	A Ship in Distress	228
XVIII.	A Clue to the Culprit	248
XIX.	The Culprit Discovered	259
XX.	Henry's Exoneration	265
XXI.	Among the Icebergs	281
XXII.	Victory	294

The Wireless Operator—With the U. S. Coast Guard

CHAPTER I

HENRY SEEKS HIS FORTUNE

HENRY HARPER was making his way down the longest street in the world as fast as the jam of traffic would allow. But this longest street in the world, Broadway in New York City, is also one of the world's busiest thoroughfares, and, despite his haste, Henry Harper could proceed but slowly. It was the noon hour, and the sidewalks were jammed with thousands upon thousands of clerks, stenographers, business men, and other busy workers, going to or from their luncheons. The streets were overflowing with vehicular traffic, as the sidewalks were with foot-passengers. No matter to which side Henry darted, there was always some person or some vehicle in front of him, and so, though quivering with impatience, he was obliged to curb his speed and make his way the best he could among pedestrians and trucks. He was bound for the office of the United States Secret Service, and it seemed to him that he would

never get there. He had just come to New York from his home in Central City, Pennsylvania, and he was on his way to see his old friend Willie Brown, who had some time previously won a position with the Secret Service.

When, finally, he did reach his destination, Henry found himself facing a situation that troubled him a great deal more than he cared to admit. Willie Brown was not in the office. What was more, Willie was not even in town. He had been sent away on some special duty. The office boy did not know when Willie would return. All he knew was that Willie had started on a trip that would probably last two or three weeks, and there was no one in the office who could give Henry any more definite information. All the clerks were out at luncheon, but they probably wouldn't know where Willie was going, anyway. And the Chief, who had given Willie his orders in person, had left for the day.

If Henry had wanted to see Willie merely to renew old acquaintanceship, the situation would have been unpleasant enough. But it was a thousand times worse than that, for Henry had come to New York upon Willie's express invitation, and the latter was going to try to help him get a job. Henry had not told him exactly when he would arrive, and so he could not blame him for not being on hand or for not leaving a

message for him. Willie's absence made it mighty unpleasant for Henry, though, for the latter had expected to be his guest, and his funds were slender. Indeed, he had little more than enough money to pay his return car fare. Two or three days at a New York hotel would exhaust these funds entirely. No wonder Henry looked worried as he slowly left the building and stepped once more into the seething jam on Broadway.

"I'll slip over to the Confederated Steamship Office," thought Henry to himself. "I know the *Lycoming* is at sea, and Roy won't be back in New York for almost a week. But maybe I can find some one who can help me out of my difficulty." So he headed hopefully toward the piers on the Hudson River front, occupied by the coastwise steamship line for which another of his old chums, Roy Mercer, now worked as a wireless operator on the steamer *Lycoming*.

Again he was doomed to disappointment. Not a ship lay in the docks. Not an official of any sort could be found about the place. Only a watchman was in charge, at the gate, and he proved to be gruff and surly. If only one of the *Lycoming's* sister ships had been in port, Henry would have appealed to the wireless operator on her, and trusted to the freemasonry that exists among wireless men generally. But there was no such luck for him. Apparently

there was no one he could reach to whom he could appeal. Here he was, stranded in the metropolis, without a friend or an acquaintance, with no job in sight, and with only a very few dollars in his pocket. It was a situation to take the heart out of almost any boy.

But Henry was no ordinary boy. To begin with, he was approaching manhood. In a year or two he would be old enough to vote. He was as large as most men, and as independent mentally as he was sturdy physically, so he did not become alarmed and panic-stricken, as a younger lad might have, but set himself to think out the best course he could pursue. He knew that all he had to do was to find some way to tide himself over until either Roy or Willie returned, and things would be all right.

Nevertheless he was worried about his money. For even though he could readily borrow from his friends upon their return, it wouldn't be exactly an easy thing to repay the loan. The money in his pocket was about all the money he had in the world.

With Roy and Willie, he had belonged to the Camp Brady Wireless Patrol. Indeed, it was Henry himself who had organized that little group of boys, and who had made the first wireless set they possessed, by the use of some patterns given him by an uncle. And he had become

probably the most expert wireless operator in the patrol. In fact, during an emergency he had served for a time as a government operator in the big wireless station at Frankfort, not so many miles from his home in Central City.

When he thought of those days Henry sighed, almost with bitterness. Then he was the leader in every respect. Not only was he the oldest boy in the Wireless Patrol, but he was farthest advanced. In the nature of things he should by this time have been far along the road to success, and in a position to help his friends; whereas it had actually turned out that he was behind them all, and that they were helping him instead. Yet it was no fault of Henry's. His father's death had thrown upon him the burden of supporting not only himself but his mother as well. Henry had given up his work at the high school for a time, but his mother had insisted upon his completing it. It had taken him twice as long to finish his course this way as it would have, could he have gone on without interruption. But now he was glad he had listened to his mother. Even though he was so late getting started, he knew he would go farther in the end.

But was he started? The question worried Henry so much that he could hardly think. He had come to New York with high hopes of getting a real start, and now he seemed about to

waste the few remaining dollars he possessed. What should he do? The roar of the traffic disturbed him. He could not think connectedly. He wanted to compose himself, so he made his way down the water-front to Battery Park, where he might be undisturbed while he thought out his problem.

But the familiar scenes in Battery Park set a new train of thought in motion in his head, and utterly defeated, for the time, his plan to think out his course of action, for in front of him, as he sat on a park bench, was the old, familiar harbor, with its seething waters and its throbbing life. And straight across the rolling waves was Staten Island, where he had spent those memorable days in that never-to-be-forgotten hunt for the secret wireless of the Germans, during the war, when the Secret Service had accepted the proffered help of the Wireless Patrol in the search for the treacherous spies that were betraying the movements of American transports. How clearly all the incidents of that search for the secret wireless now stood out in Henry's mind. He could recall, as though it had been but yesterday, the departure of the selected unit of the patrol—Roy Mercer and Lew Heinsling and Willie Brown and himself—from Central City, and their meeting with their leader, Captain Hardy, and the tedious watch for the Ger-

man spies, lasting through weeks, which began in upper Manhattan and ended in Staten Island.

And when Henry thought of the snug little headquarters they had had in a private house in Staten Island, with a delightful elderly couple, he jumped to his feet and almost shouted with relief. Why hadn't he thought of those old people before? They would take him in and tide him over until his friends returned. They would be glad to see him again, too. Henry felt sure of that, and, sighing with relief, he leaped to his feet, seized his little suit-case, and hustled over to the near-by municipal ferry-house, just in time to catch an outgoing boat for Staten Island.

Eased in mind, he now eagerly watched the harbor, thrilling with the stirring scenes before him. Six miles as the crow flies lay the course across the bay to Staten Island, and this six miles was alive with shipping. Everywhere vessels were moving. Sister ferry-boats were ploughing the waves straight toward Staten Island. In the Hudson and the East Rivers more ferry-boats were crossing back and forth. Big steamers were moving majestically along. Tugboats without number churned the choppy waves to foam, some riding in solitary state, and some towing long strings of barges at the ends of great hawsers. Others were snuggled in between big lighters, like porters with huge bandboxes under each arm.

In the anchorages below the Statue of Liberty great tramp ships rode idly at anchor, awaiting cargoes. And on the opposite side of the bay, below Governor's Island, stately sailing ships rolled gently in their moorings. Motor-boats, yachts, sailboats, even an occasional rowboat, moved this way and that. The surface of the water was crossed and recrossed with lines of yeasty foam, churned up by the passing craft, while the air was vibrant with the ceaseless tooting of ships' whistles.

And there was Governor's Island, with its antiquated round fort, and the ancient cannons atop of it. And farther along was the newly-made part of the island, filled in with thousands of loads of material brought by barges. On this made land now stood row upon row of government sheds and warehouses erected during the war. And Henry recalled the still more stirring scenes during those days of struggle, when every possible anchorage was occupied, and the boats of the Coast Guard went rushing about with their peremptory orders to incoming steamers, like traffic police of the harbor, as indeed they were. And as his boat drew near the ferry-house at St. George, Henry saw a Coast Guard cutter herself lying at anchor close to the Staten Island shore. How trim and beautiful she looked, in her shining white paint, with her flags

flying, and her motor-boat lying lazily alongside.

But now the great ferry-boat was coming to rest in her dock. The clank of pawls, as the deck-hands made the huge craft fast, the lowering of the gangways, and the hurried rush of feet, made Henry take his gaze away from the fascinating harbor scene, for the crowd was moving and he had to move with it. In another moment he had stepped ashore and found himself outside the ferry-house.

An interesting place, indeed, was this St. George terminal. Henry had journeyed on the upper deck of the ferry-boat, and now he found himself in the upper part of the ferry-house. There were all the usual features of a great waiting-room—long rows of seats, and news-stands, and quick-lunch counters, and fruit-stands. None of these interested Henry. His attention was centred on the scene without. The edge of the island was a low-lying fringe of land, now given over wholly to shipping facilities—great wharves and piers and wide roadways skirting the water's edge. Inland a few hundred yards the ground rose sharp and steep, and these sloping terraces were covered with buildings. Skirting the hilly heart of the island, roads wound downward, meeting directly in front of the ferry building, and reaching that structure by a long,

sloping approach. These converging roads made Henry think of a huge funnel, with the sloping ferry-approach as its small end. And the idea of a funnel was carried out by the way this approach poured traffic into the ferry-terminal. Trolley cars, motor cars, and pedestrians swarmed down it in endless procession. Seemingly all the roads in Staten Island converged at the upper end of this ferry-approach, and shunted their burdens toward the crowded ferry-house.

Up this ferry-approach Henry made his way until he came to the end of it, where it split into divergent roads. A moment he stood here, waiting a favorable opportunity to cross the road. While waiting, he noticed a man on the opposite curb, who was likewise held up by the traffic, and who was evidently impatient of delay. Suddenly the man swung from the curb and tried to worm his way across the thoroughfare, among the moving vehicles. He had a bulging suit-case in one hand and a large package in the other. Henry judged that he was hurrying to catch a boat.

The stranger was half-way across the street, when a recklessly driven car, rushing up the ferry-approach, made the nearest drivers on the upper roads swing sharply to one side. That caused all the traffic to turn out. The man crossing the road was so laden with bundles that he

could not move quickly enough, and he was caught directly in front of an oncoming motor truck. With a leap, Henry was at the pedestrian's side. Seizing him by the arm, he dragged him to safety. But the car in passing knocked the parcel from the man's arm and broke it open, scattering its contents on the road. The car behind promptly stopped, blocking the traffic. Henry snatched up the scattered contents of the parcel and jumped back to the sidewalk. Then he took the suit-case himself, while the stranger bundled the contents of the broken parcel under his arms, and together they made their way to the ferry-house.

Henry's companion was a heavy-set man of ruddy complexion, whose strong face showed both firmness of character and kindness of spirit.

"That fellow would have got me sure," he said indignantly, "if it hadn't been for you, sir. They ought to put about half of these motor-car drivers in jail."

"They're pretty reckless," Henry agreed.

"I don't know how I am ever going to repay you," said the man. "You probably saved my life."

"I don't want any pay," said Henry. "If I really saved you from harm I am glad."

They reached the ferry-house, but, instead of entering, the man turned to the right and went

down a flight of steps. Then he walked across the lower road to the very edge of the wharf, and out on a little float. Henry saw at once that the man must belong on some one of the ships at anchor near by, and was probably waiting for a small boat to meet him.

"If I can be of no further help to you," said Henry, "I must be on my way."

"I guess I'm safe enough now," laughed the man. "And I owe it to you that I got here with a whole skin." He thrust his hand into his pocket and pulled out a little roll of bills. "Take these," he said to Henry, "and my best wishes."

Henry looked at the money longingly, but only for a second. "I thank you," he said, "but I couldn't do it, sir."

"At least you will shake hands," smiled the stranger, and he thrust out his hand. Henry took the proffered hand, shook it warmly, and, saying good-bye, turned on his heel. In a few moments he was back at the crossing, and a second later he had gained the farther curb and was absorbed in the study of the old town where he had spent such memorable days.

But what a difference! This was not the town of St. George as he knew it at all. How it had expanded and been built up. On every hand arose unfamiliar buildings. From a little town

the settlement had altered into a city. Where once stood little cottages now arose great business blocks or towering apartments. No longer was this a sleepy little island. It was a pulsing part of a great city.

Rapidly Henry strode along, his pulse stirred, as always, by the throbbing life of the great metropolis. On he went, and on and on, until he came to the place where he should have seen the house of the German spy. It was no longer there. A great row of apartments had replaced it. And when Henry looked above, at the higher level where stood the house in which he and his comrades had spent so many thrilling days, again he saw a row of towering apartments. The house he was seeking no longer existed.

The realization shocked him. He stopped in his tracks and stared. His heart almost stood still. His last hope was gone. Then wildly he tore up the roadway to the higher level, still hoping that he might find some trace of the people he sought. His hope was vain. No name in any doorway even remotely suggested the name he was looking for, and all whom he questioned gave him the same reply,—they did not know any one of that name.

Almost stunned, Henry turned about and slowly retraced his footsteps. He was hardly conscious of where he was going, but he kept

walking, and his footsteps naturally went downhill. Before he realized where he was, Henry found himself on the water-front. A great, wide, cobbled thoroughfare ran along the water's edge, and here, projecting far out into the bay, stood pier after pier in a magnificent row, all built as a result of the war. But the pulsing life of the war days was gone. Many of the piers seemed empty or deserted. Few vessels lay in the docks. Yet the splendid water-front, once open and unobstructed, was now completely shut in by these hulking structures. To see the water here, one must either go back up the hill, where one could see over the pier-sheds, or else go to the seaward end of a pier. And no matter how keen his disappointment was, Henry did want to see the water-front here. After a little he would go back to Manhattan and try to find some quarters where he could exist until one of his friends returned, or until he could get a job. But before he went back he meant to have a good look at this lower end of the harbor, which he loved so well.

Carefully he made his way along the edge of a pier, outside of the pier-shed. It chanced to be unoccupied. Henry was glad it was so, for there would be no one to disturb him. He could enjoy the scene to his heart's content. When he reached the outer end of the pier, he set his little

suit-case down and gave himself up to full enjoyment of the scene. Not far below him were the buildings at the quarantine station, and a great steamer lay in the Narrows there, evidently detained by the quarantine officials. Here were no hurrying ferry-boats, but directly off the pier on which he stood were anchored a number of ocean-going craft. How huge they seemed. How alluring was the thought of a voyage aboard one of them, even if they were but clumsy freighters. There was nothing clumsy about the little Coast Guard cutter that lay near them, however, and again Henry admired the trim little craft. He saw her small boat returning from land with some passengers aboard, and he wondered at her speed and the way she darted through the waves. He could even see the man on watch, as he paced back and forth across the bridge.

Presently an ocean liner passed down the Narrows, headed for the open sea. How majestically she rode the waves! Her rails were lined with people. Henry wondered where they were going, and when they would be coming back again. He watched the great ship until she began to grow small in the distance. He was lost in thought, his mind with the voyagers on the great vessel. There was not a soul about to disturb his meditations. No one was on the pier, and

no ships lay in the docks alongside. How he wished he might take a journey abroad, like the passengers on that great liner, and see distant lands and strange peoples.

Unconsciously Henry had approached the very edge of the pier. He hardly realized that only a foot or two of solid planking lay between him and the heaving waters. His thoughts were entirely centred upon the vanishing steamer. He wanted to watch her until he could see her no longer. Her course turned her slightly toward the shore, behind some pier-sheds and shipping farther down-stream. Henry craned his neck as far as he could, to watch the disappearing vessel. Then he took one step forward, and, as he did so, his toe caught under a spike which was sticking up an inch or so in the flooring of the pier. He lost his balance, and, before he could recover himself, pitched head foremost over the end of the pier. Then, with no one near to aid him, with not a soul to hear his startled cry for help, he sank far down into the cold and heaving waters.

CHAPTER II

A FIGHT FOR LIFE

SO confused was Henry that he knew not in which direction to strike out. He could not tell which way was up and which was down. He was afraid to try to swim, lest he drive his body still deeper into the water, or swim against a piling and perhaps knock himself unconscious. Instinctively he had taken a deep breath just as he struck the water. It was fortunate, for he was a long time coming up, and before his natural buoyancy lifted him to the surface, he began to suffer for air. His lungs seemed to be bursting. He felt as though he were suffocating. But just when it seemed as though he could hold his breath no longer, his head shot up above the water.

With a gasp Henry sucked in a lungful of air, and with it he gulped down a mouthful of salt water. He began to cough and as he did so a choppy wave hit him smack in the face and he swallowed more water. Although he was an excellent swimmer, he was really in a bad way. All of his swimming had been done in smooth, fresh water. He was not accustomed to salt water and the roughness that usually accompanies it. With

his face drenched with the spray, his eyes stinging with the salt water, and the choppy, uneven waves dashing over him, he knew not how to take care of himself, or hardly in which direction to try to swim.

Indeed, it would have bothered even a more experienced person to know just where to turn. The pier from which Henry had fallen contained not a soul, and no boats lay in the long, flanking docks. It was useless to look for help from that quarter. It was almost as useless to turn toward the ships that lay at anchor some hundreds of yards out in the water. Between them and the shore the tide was sweeping seaward with great power. Even if he could manage to keep afloat, it would be almost useless to swim toward these ships. He could never hope to stem that strong current, and the chance of being seen by any lookout on the ships seemed remote indeed to Henry. As for getting out of the water, there seemed no possible chance of that either. There were no ladders, no ropes, no steps visible anywhere along the piers, by which he could mount upward. Only the rounded pilings that upheld the pier floors offered space to cling to, and these were covered with rough barnacles and coated with slime. Besides, it would do little good to cling to them unless he could first attract the attention of some one.

With all his might Henry shouted, but he got no response. He was fast becoming chilled, for the water was very cold. His strength was ebbing, and the swirling eddies sucked him toward the pier. Once, indeed, he was drawn entirely under the pier, and the choppy water knocked him roughly against the pilings. His head banged hard against a great spile, and for a moment Henry almost lost consciousness. Then he recovered his full senses and set himself to fight for his life. His strength was going fast, and he knew it. Yet he did not allow himself to become panic-stricken. He took a grip on himself, turned away from the pier, and struck out with all his remaining strength. Whatever happened, he would get away from those deadly pilings. The thought of dying under the pier, among those slimy spiles, chilled him worse than did the cold water.

Incessantly the waves dashed in Henry's face, blinding him. But he kept his mouth shut and quickly learned to breathe guardedly, so he swallowed little more water. Before him he could dimly distinguish the great black bulk of an anchored ship. Even at the risk of being swept seaward, he decided that he would try to swim to it.

Had it not been for his wet clothing and his shoes, which felt like lead, Henry might have been able to make it. But his garments held him

back terribly. And so, though he continued to make headway, he was swept swiftly along with the tide, out toward the open sea. From time to time he shouted and waved a hand aloft, trying to attract attention. All at once he realized that he could never gain his goal, and the thought struck sudden terror to his heart. Still he struggled on, but his strokes grew feebler and feebler. His vision became so confused he could not see anything clearly. He was so utterly tired as to be almost exhausted. Indeed, his movements had become almost mechanical, and he had all but lost consciousness when he was startled by the sharp clang of a bell and the noisy churning of water close at hand. Then something took him by the coat-collar and he felt himself being bodily lifted out of the waves. Again the bell clanged sharply, once more a propeller churned the waters, and he felt himself moving swiftly over the tide.

It was a full minute before Henry could clear his brain and wipe his eyes clean, so that he could see. He found himself in a powerful little motor-boat, quite evidently built for use at sea, that was now scudding along under full power direct toward the little white Coast Guard cutter. Straight at the cutter charged the little craft. When it was only a few yards distant, the bell clanged once more, the propeller ceased to re-

volve, the little boat's head came sharply about, and in another moment the craft was resting beside the ship's ladder.

"Can you make it alone?" asked one of the sailors in the boat, as Henry rose to his feet and stepped on the landing-stage of the cutter.

"Sure," said Henry, who was already recovering his strength.

"Then up with you, quick."

"All right," answered Henry, "but first I want to thank you men for saving me. I couldn't have kept afloat much longer. You got to me just in the nick of time. I don't know what to say, to make you understand how I feel."

"Forget it," smiled the sailor, "and hustle aboard. You'll get pneumonia if you stay there in the wind."

Henry turned and started to mount the ladder. He noticed that one of the sailors was close behind him, apparently ready to support him if he needed help. But Henry was not now in need of assistance. His strength was increasing every minute. He grasped the ladder-rail and mounted upward, and when he looked ahead of him, he saw that the cutter's rail was lined with faces. Apparently the entire crew had been watching the rescue.

As he reached the deck, Henry looked about him. Dozens of sailors, in their strange blue uni-

forms, were gathered forward of the ladder. And just aft of it stood a group of officers, looking very brave and trim in their blue uniforms, with their gold-braided caps and their gold-embroidered sleeves and shoulders. The captain looked especially fine. He was a heavy-set man with a ruddy countenance. His uniform gave him an air of real distinction. Somehow, his face looked familiar to Henry, but it was not until the man spoke that Henry knew who he was.

"Bless my stars!" exclaimed the captain, when he had taken a good look at Henry. "If it isn't the lad who saved me from that old motor truck a few hours ago!" Then, without a word to Henry, he said: "Hustle him down to the fire-room, rub him briskly, fill him up with hot coffee, get him some dry clothes, and, when you get him to sweating good, bring him to my cabin. Now, step lively."

And step lively those sailors did, too. They rushed Henry forward and down a steep, iron ladder into the hottest room he had ever been in. And they stripped off his clothes and rubbed him with rough towels until they almost skinned him. Then they provided him with dry clothing. Meantime a mess-boy brought steaming hot coffee from the cook's galley, and Henry drank cup after cup of it. Very grateful, indeed, was all this warmth after his chilly bath. Yet it was

some little time before Henry was really warm. But presently he became more than warm. He grew hot. Then beads of perspiration broke out on his body, and presently he was sweating profusely. Meantime the ship's surgeon had come into the fireroom and examined his pulse, listened to his heart beat, and given him some sort of a dose. Then the doctor led the way up to the deck and along to the after companionway and so down to the captain's cabin.

"Well, how are you feeling?" asked the captain, as Henry and the surgeon entered the cabin, after knocking at the door.

"First rate," laughed Henry, "but about as hot as a furnace itself."

The captain chuckled. "That's good news," he said, "eh, Doctor?"

"The very best," said the surgeon. "He's all right, Captain. I think his ducking will not hurt him a bit. He shows no sign of chill or shock or any bad after-effect."

"Very good, indeed. But keep your eye on him, Doctor. Now that we have got him, we don't want to lose him."

The surgeon withdrew, leaving the captain and Henry alone in the little cabin.

"Tell me, my boy," said the captain, with great kindness, "how in the world you ever got overboard. And, by the way, what happened

to your suit-case? Did you lose that overboard?"

"Gee!" said Henry. "I forgot all about that. It's back on the pier that I fell from. Is there any way I could get it?" And he began to look much worried.

"Don't be alarmed about it," replied the captain. "We'll have it on board in a jiffy."

He stepped to the table in the centre of the cabin and pressed a call-button that hung over it. An attendant instantly responded.

"Rollin," said the captain, "tell Lieutenant Hill that this lad had a suit-case, and that, unless some one has taken it, it is on the pier from which he fell. Ask the lieutenant to see that it is recovered at once."

The attendant raced up the companionway, and a moment later Henry heard the clang of the bell in the little motor-boat and the churning of her propeller.

"I'm mighty sorry you fell overboard," continued the captain, "but I'm also mighty glad to welcome you aboard the *Iroquois*. After what you did for me, it gives me the greatest pleasure to be of some slight service to you. Now tell me something about yourself. What is your name? And where do you come from? Seeing that you carry a suit-case, I judge that you do not live in New York."

"No, I do not," said Henry. "My home is in Central City, Pennsylvania, and my name is Henry Harper."

"Well, we'll shake hands, Henry. My name is Hardwick—Captain Hardwick." And he thrust out a muscular palm.

Henry shook the proffered hand. "I owe you my life," he said. "I never can thank you adequately, but please believe I am grateful to you."

"Then we are quits. It is a case of tit for tat, isn't it?" And the captain smiled genially. "Now tell me what brings you to New York and to Staten Island?"

"Well," explained Henry, "I came over to New York to see an old friend of mine, Willie Brown. He won a place in the Secret Service recently and he promised to try to get me a job if I would visit him."

The captain frowned ever so slightly. "So you have been bitten by the detective bug, too, have you?" he said.

"No, sir," answered Henry. "I have no wish to be a detective, but I do want a job. You see, sir, I was graduated from high school only last June, and I want to get to work just as soon as I can. There do not seem to be many very good jobs open to a fellow in a little town like Central City."

"I see. It always seems that way. Distance

lends enchantment to view. But never mind about that. What luck have you had here?"

"About the worst possible," said Henry, with a grim laugh. "Willie wasn't in town, and won't be for two or three weeks. And Roy Mercer, another of my friends, who is wireless man on the *Lycoming,* is at sea and won't be in port for at least a week. And so I can't find a soul I know."

"But what took you to Staten Island?"

Henry hung his head. "You see, Captain Hardwick," he said slowly, "I—I—didn't exactly know what to do until Willie or Roy got back, and I thought maybe I could find some friends in Staten Island. I came here looking for them, but they have moved. It sort of upset me, and I went down to the water-front to think what I should do. Then I fell overboard."

The captain looked at Henry searchingly. "You look big enough and experienced enough to take care of yourself for a week, even in New York. Why didn't you go to a hotel and make yourself comfortable while you waited for your friends?"

"I'd have been only too glad to do so, Captain, but you see—you see—I came here expecting to be Willie's guest—and I wasn't prepared to—to ——"

"Out with it," said the captain. "You mean you haven't the money, and you were worried about how to get along."

"That's exactly the case," said Henry. "You see, Captain, my father is dead, and I had to work while I went to school, so it put me behind a little. Willie wanted to help me get a job, and he offered to take care of me while I was here. I had enough money to pay my car fare here and back, but that is about all. So you see I couldn't very well go to a hotel."

"Well, bless my stars!" ejaculated the captain. "And you wouldn't take a cent from me this morning."

"I couldn't, Captain. Would you take pay from me for saving my life just now?"

"Certainly not, but that's different. Saving life is part of my job. That's what I'm paid for. Besides, I didn't have a thing to do with it. The man on watch saw you fall overboard, and I merely ordered out the boat."

"I can at least thank you for ordering out the boat. And I want to do something to show my gratitude to the men who fished me out of the water. I was almost gone when they got me, Captain Hardwick."

Again the captain stepped to his call-bell. "Rollin," he said, when the attendant appeared, "tell Lieutenant Hill to send the crew of the

motor-boat to my cabin when they get back with this lad's suit-case."

"Yes, sir. I think they are here now, sir." And the attendant hurried up the companionway.

A moment later three sailors appeared, one of them carrying Henry's suit-case. They came into the cabin and stood at attention.

Henry jumped to his feet. "I don't know your names," he said, "but my name is Henry Harper. I want to thank you for what you did for me. If you hadn't got me, my mother would have been left all alone, without any one to take care of her. I don't know what to say to you, but please believe that I am deeply grateful."

The sailors were pleased, though they made light of the event. "Forget it, kid," one of them said. "It's all in the day's work."

"Then I'll say it's a pretty fine sort of work you men do," replied Henry. He shook hands heartily with his rescuers, and the three sailors went tramping up to the deck.

"You told the truth, Henry," said the captain, after the sailors had gone, "when you said they were engaged in a fine sort of work. It is a life full of hardships, this life of a Coast Guard, and yet the men love it. If you are looking for a job, you can find an opening right in this service."

"What could I do?" asked Henry. "I don't

know a thing about the sea. I don't have any desire to be a mechanic, and so I wouldn't make a good engineer. And I really would not care to be a sailor."

"You might become a wireless man, like your friend on the *Lycoming*. You could doubtless learn to operate the wireless as well as he can."

Henry smiled. "There wouldn't be any trouble about the wireless," he said. "I've already worked for Uncle Sam as an operator."

"The dickens you have! Tell me about it."

And Henry told Captain Hardwick all about the Wireless Patrol, about the capture by that patrol of the German dynamiters at Elk City, about the hunt for the secret wireless right in Staten Island, and about his serving as a substitute operator in the Frankfort wireless station.

The captain's eyes opened wide as he listened to the story. "If there's anything in having plenty of good operators aboard, we ought to be safe on this ship," said the captain, "for you are going to stay here as my guest until your friends get back to New York. Meantime, you can find out a whole lot about the life on a Coast Guard cutter, and perhaps you might decide to enter the service yourself."

"Do you mean it, Captain Hardwick?" asked Henry, his heart beating high at the prospect.

"Certainly I mean it."

"And shall we go to sea?" cried Henry.

"Indeed we shall. I received orders just a little while ago to destroy a derelict that has been sighted off Nantucket Shoals. That's what brought me aboard. You see I live in Staten Island—when I'm home. I'm waiting for my executive officer. The minute he comes aboard, we'll hoist anchor."

"Thank you, Captain," cried Henry. "Won't that be bully! I'll be more than glad to go. But I ought to let my mother know what has happened to me. She'll be worried when no letters come."

"Entirely right," said the captain. "Here's my desk. You can write her a letter whenever you wish. If there was any way to reach her by wireless, we could send word to her at once from the ship."

"Bully!" cried Henry. "Of course I can. The fellows at home will be listening in for me right after supper. We made that arrangement before I left home. I expected to call them up on the outfit Willie uses at the Secret Service headquarters."

"Very good," said the captain. "Then we'll call it settled. And I hope you'll enjoy every minute of our trip."

CHAPTER III

THE SEARCH FOR THE DERELICT

SO overjoyed was Henry at his sudden good fortune that he wanted to throw up his hat and cheer. But he knew that would never do. To hide the emotion that was struggling for expression, he stepped into the little stateroom that the commander now indicated was to be his, and so keen was his interest in this that he promptly forgot his desire to make a noise.

The captain's cabin was in the after part of the ship, and the little staterooms, for there were two of them, occupied the very stern. These staterooms were twin compartments, one for the captain and one for his guests. A narrow passageway divided them. Each stateroom contained a snug-looking bunk, with a round air-port, or window, just above it, like a huge eye; and there was also a wardrobe, and a dresser with a mirror above it. Each stateroom, likewise, led into a private bathroom, as comfortably equipped as any similar room on land. The enormously high sides of the bathtub at once caught Henry's attention, and he rightly guessed that these were

to prevent water from slopping out of the tub when the ship was plunging in the waves. As soon as he had examined his quarters, he unpacked his little case, stowing his few articles of clothing in the dresser. Then he stepped back into the cabin to have a look at that.

Fortunately, the captain had gone on deck, and Henry was free to examine things to his heart's content. The cabin would have filled the heart of any boy with delight. Occupying a cross section of the after part of the ship, it reached from side to side of the vessel, with rows of round air-ports on either side letting in air and light, and giving a view out over the water. Along either wall, directly under these air-ports, were leather-cushioned seats, where one could sit or lie at ease. In the centre of the room was a square oak table, now covered with a soft green felt cover. A sideboard was built into one side of the cabin, and Henry was interested to note how all the goblets and dishes were secured so that they could not fall from their places. Closets were also built into the sides of the room, and one corner was occupied by the captain's desk, with his typewriter fixed on a movable shelf attached thereto. Doors led mysteriously into other parts of the ship, one of which, Henry later found, opened into the cabin of the captain's steward or mess attendant. And of course there

were comfortable chairs and electric lights everywhere, and books in a case, and some silver cups that Henry found had been won by the crew of the *Iroquois* at the annual manœuvres of the Coast Guard fleet at Cape May, and so many other snug and interesting things that he thought this was indeed the most delightful place he had ever been in. And now that the captain was not present, he wanted more than ever to give a loud whoop or two.

It is altogether likely that he would have done so, too, had he not just then heard the clang of the motor-boat's bell alongside, and in another moment footsteps sounded in the companionway. Then the captain entered the cabin, followed by a tall, muscular-looking officer in full uniform.

"Mr. Harris," said the captain, "this is my young friend, Henry Harper. He is going to be my guest for a few days. Henry, this is my executive officer, Mr. Harris."

The two shook hands, and Henry knew at once that he was going to like the tall, frank-looking sailor before him. Honesty was written all over his face, and his wide-set blue eyes were as kindly as they were fearless. The moment he had finished greeting Henry, he turned to his chief expectantly.

"I just got a wireless order to destroy a derelict that was sighted off Nantucket Shoals, well

offshore. Suppose you ask the chief engineer to get the ship under way at once, Mr. Harris."

As the executive officer turned to go, the captain continued: "I don't like the looks of the weather. Fog may shut down at any moment. We want to get out to sea before it catches us, if possible. So tell him to drive her hard."

"Very well, sir." And the captain's right-hand man stepped out of the cabin.

"Henry," said the captain, "I had better introduce you to the other officers at once. I'll be busy in a little while, and might forget about it. Come into the wardroom with me."

The captain was hard on the heels of the retiring executive officer. Henry followed his host through the companionway door, but instead of mounting the steps, the captain entered a second door directly opposite his own at the foot of the staircase, and Henry, following, found himself in the wardroom, or living-room, for the other commissioned officers. This was immediately forward of the captain's cabin, and was not unlike it in size and furnishings. Several men in uniform sat about a table in the centre of the room, reading magazines, playing solitaire, or otherwise amusing themselves. All arose as the captain entered.

"Gentlemen," said the commander, "this is Henry Harper, who is to be my guest for a few

days." Then the captain made Henry acquainted with each man separately, naming them as Chief Engineer Farley, Lieutenant Hill, Ensign Maxwell, and Dr. Drake, whom Henry had already met, although he did not until this time know his name.

"We're short-handed, as you see," said the captain, "but I guess we'll manage to operate the ship anyhow." And with a pleasantry or two, he withdrew. The executive officer delivered the captain's order, and all the officers, hearing it, went to their stations.

"What did the captain mean when he said you were short-handed?" Henry asked the doctor.

"Oh! We don't have our full complement of officers. We lack a junior engineer officer and a junior lieutenant. It makes it a little hard, because the officers we do have must perform extra duty."

While they were talking Henry suddenly became conscious of a curious vibration in the ship, and a low, rumbling noise that filled the air. He suspected that the ship's propeller must be turning. The ensign confirmed his suspicion when he said: "We're moving. Would you like to go on deck and see how we get under way?"

Henry did not know it, but the ensign was quite as eager to see as Henry himself could possibly be. The ensign was fresh from the

Coast Guard Academy, and this was his first trip as a commissioned officer. Henry was grateful for the courtesy, and gladly followed the young officer up the companionway.

"Come up on the bridge," said the ensign. "As the captain's guest, you will be free to go anywhere. We can see better there."

Interesting as the sights about them were, the things to be seen on deck were even more interesting to Henry. And he made his way forward very leisurely, as he took the first good look at the *Iroquois* he had had opportunity to take. He noted that the after-deck, from the companionway to the taffrail, was entirely clear and open, and was roofed over with a tightly stretched awning. Amidships towered the smoke-stack. And here, too, was an array of skylights and ventilators, all open now, but so arranged, Henry saw, that in time of rough weather they could be securely battened down. And there were iron doors leading directly downward into the bowels of the ship. One of them was the door through which Henry had descended to the fireroom. Close by the after companionway rose a stately mast. High up on it was the barrel-like "crow's-nest," for a lookout aloft. And forward, just behind the wheelhouse, towered a second mast, also with a crow's-nest, and with signal lamps on a cross-arm. Immediately Henry caught sight

of the wireless antennæ stretched between these two masts, and his practiced eye noted every detail of the wiring, and traced the lead-in wire downward to a room beneath the wheelhouse. Amidships, along either rail, hung three or four lifeboats, swung outboard over the side of the ship, and lashed fast to big horizontal spars or strongbacks with stout rope shackles called gripes, so that they were held immovable, as in a vice. And here and there along the rails circular life buoys were fastened or " stopped " with short pieces of rope.

But before Henry could take in any more details, his companion had mounted a ladder that led directly to the bridge, where the captain had already taken his station.

The bridge was a steel structure, reaching from side to side of the ship, and raised high above the deck, so that an unobstructed view could be had of everything. It was railed in with strong, iron rails, reaching breast-high. Stout canvas covers were fastened all around it, extending from the floor almost to the level of the eyes, excepting immediately in front of the wheelhouse, where they were fastened lower. This was the weather cloth, to shut off the wind; and, as Henry was to learn, it was a welcome aid to the navigator. Compasses were balanced on strong pedestals at either side of the bridge, and there

were various levers, to use in blowing the ship's siren, and for other purposes as well, though, of course, Henry did not yet know what they were for, any more than he understood that the Franklin metal life-belts, or buoys, that hung at either end of the bridge could be dropped overboard by a single motion of the hand, and that when they struck the water the queer-looking tubes projecting from them would shoot out lights that would burn for a long period, showing persons struggling in the sea which way to swim for safety.

At present Henry was wholly engrossed in the action that was taking place before him. The ship was moving gently through the water. The anchor had been partly heaved up by the little hoisting engine on the forward deck, but in heaving it, the chain had become twisted around one of the movable flukes, so that the stem of the anchor could not be properly heaved in through the hawse hole. A warrant officer in uniform, and a small group of sailors, leaned over the bow rail, trying to release the fouled anchor. A slender rope ladder had been lowered over the side, and on this a sailor was creeping down to the anchor that hung partly in the water, with a small rope in his hand. The rope he cautiously slipped around a fluke, so that the anchor could be tilted up.

"That's the boatswain, Mr. Johnson," said the ensign, indicating the warrant officer in charge of the sailors.

Presently the anchor was freed. The boatswain signaled to the man at the hoisting engine, and slowly the huge anchor-chain was heaved taut, with the flukes of the anchor drawn up tight against the hawse hole. The moment the anchor was lifted free of the water, the boatswain notified the captain, who immediately signaled the engineer to crowd on steam. At once the vibration of the ship became more noticeable. Faster and faster she began to surge through the water, and presently she was steaming at top speed toward the open sea.

On some other occasion, perhaps, Henry would have centred his attention on the views without, but now he was wholly occupied with the mysteries of this wonderful ship, so he paid slight heed to the wonderful sights in the Narrows, and gladly followed the ensign when the latter suggested that they step inside.

They entered the wheelhouse, a tiny room just behind the bridge, where a sailor stood at the wheel, steering the ship in accordance with the captain's low-spoken orders. Immediately they passed through a door into the chart room. This was somewhat larger than the wheelhouse, though tiny at best. On a large shelf or table

lay a number of charts, some dividers, pencils, erasers, sliding rules, and some binoculars. In a rack on the wall were various code-books and books of instructions to navigators. Lieutenant Hill was erasing some lines from a chart. A moment later the captain stepped in. The two consulted the chart, and made some measurements with the sliding rule.

"Our course is east, three-quarters south," said the lieutenant.

"Very good," replied the captain. "Mark it on the chart."

The lieutenant laid his rule along the course indicated, and drew a line on the chart, while the captain stepped into the wheel room.

"Keep her east, three-quarters south," he said to the man at the wheel.

"Aye, aye, sir. East, three-quarters south," answered the helmsman.

"We're laying a course direct for Ambrose Lightship," said the lieutenant to Henry. "After we reach that we will head directly for the location of the derelict."

Presently, as he heard a thin, shrill whistle piping on deck, Henry turned to the ensign. "What was that?" he inquired.

"That's the boatswain's mate piping mess gear."

"That's all Greek to me," laughed Henry.

"Well, that's the nautical term for the call to table. The whistle blows ten minutes before meal time, and the men, except those who must remain on duty, must wash for supper. See them scurrying to get ready? Meals are served at seven-twenty, noon, and five at night. So it's ten minutes of five now."

Henry was watching the sailors hurrying below, when a hand was laid on his shoulder. "Well, youngster," said the captain's kindly voice, "it's time that you and I got washed up, too, or Rollin will be in our wool."

Thanking the ensign for his kindness, Henry followed the commander to the deck and then down the companionway to the cabin. What he saw made Henry open his eyes wide. A snowy table-cloth had replaced the green felt table-cover, and the square little table was beautifully set for two.

"You'll find towels in your bathroom," said the captain. "And if anything is missing, just ring for Rollin and he will bring it to you."

In a few moments the captain and Henry sat face to face at the small table, and Henry was enjoying one of the pleasantest meals he had ever had.

Night was approaching when the meal was ended. "I must be getting my message off to my mother," said Henry.

"Surely," assented the commander. "We mustn't forget that. Come with me and we'll go get acquainted with Sparks."

"Sparks?" queried Henry.

"Oh! That's our pet name for Harry Sharp, the chief electrician. He has charge of all the electrical apparatus as well as the wireless itself."

They found the chief electrician in the wireless house, for it was his trick at the key. "Mr. Sharp," smiled the captain, "this is Henry Harper. He's taking a little trip with us, and maybe he'll be a Coast Guard man himself some day. Just now he wants to send a message to his friends at home, so that his mother won't be alarmed about him. Will you help him out?"

Henry's eyes shone bright as he looked about the small wireless room. There was a broad, desk-like shelf that stretched from side to side of the little room, and on this, and on the walls about him, were fastened a dazzling array of wireless instruments.

"Gee!" exclaimed Henry. "What a peach of an outfit!"

"It ought to be," said the chief electrician with a smile. "It's right up-to-date, and it cost Uncle Sam ten thousand dollars. Know anything about wireless?"

"A little," said Henry. "I served as a sub-

stitute operator at the government station at Frankfort for a time."

"Would you like to send your own message?"

"Would I? Gee! I should say so."

"All right. Sit down here and let's see what you can do. Call up your station."

"Thank you," said Henry. "Will you set her for two hundred and fifty meters, please?"

The electrician twirled his thumbscrews. Henry tested the key for a moment, then threw over the switch and sent his call speeding through the night: "CBWC—CBWC—CBWC—de—CBE."

"You send well," said the chief electrician.

For a few moments the two operators sat, their phones clamped to their ears, listening intently. There was no response.

"CBWC—CBWC—CBWC—de—CBE," once more rapped out Henry.

This time there came a faint answer: "CBE—CBE—CBE—de—CBWK—K."

"You've got 'em," commented the electrician. "Go ahead."

"Reached New York all right," wired Henry. "Both Willie and Roy out of town. Made the acquaintance of Captain Hardwick, of the Coast Guard cutter *Iroquois*. Am going to sea for a short trip as his guest. We are now in Lower New York Bay, heading for Ambrose Lightship.

We are to find a derelict and destroy it. Please tell mother to write me in care of Captain Hardwick. Will send her a letter as soon as we get back."

There was a long pause. Then the receivers began to buzz again. "Your mother is here," came the message. "Wants to know more about your trip."

Henry turned to his companion. "They are talking from the workshop in our back yard," he explained. "It's headquarters for our wireless club. We call it The Camp Brady Wireless Patrol. They've called mother out to the shop."

Then he pressed the key again. "Tell her I'll write," he flashed back, and turning again to the chief electrician, he said with a grin: "Gee! I'd never dare tell her that I fell overboard. She'd have a fit and order me right home."

"Where can we get you?" came another query.

"Call the *Iroquois.*" Once more Henry faced his companion. "What is our call signal?" he asked.

"NTE," was the reply.

And Henry hastily added to his message: "Our call is NTE. Can send no more. Goodbye."

"Gee!" he exclaimed, as he laid down the receivers. "Won't my chums be an astonished

bunch! It was almost worth falling overboard to give 'em such a surprise! And won't they envy me! I'm going to have the time of my life."

CHAPTER IV

THE WATCH IN THE DARK

THE chief electrician was on watch for four hours, and Henry sat with him in the wireless shack, as the radio room on the *Iroquois* was called, until his watch was ended. Together they caught the nightly news-letters sent out by the various press associations. They heard myriads of commercial messages flashing through the air. At times the operator switched on the radio, and then, through the loud speaker, they heard some of the broadcasting programmes. Henry had told the truth when he said he was having the time of his life. Never had he seen such a wonderful wireless outfit as this one, for the Frankfort station equipment, which he had operated many months before, was naturally far from being the equal of these brand-new instruments.

Shortly before the chief electrician's watch ended, the door of the wireless shack opened, and a sailor stepped within. At least, the lad was dressed like a sailor, though when Henry saw the red electric sparks embroidered on the young

man's blue sleeve, he judged that this must be the wireless relief. And so it proved, for the chief electrician at once said, " Mr. Harper, this is one of my assistants, Mr. Black."

Henry thought the newcomer was well named. The fellow had a surly look, and his eyes were shifty. He was one of those individuals that never looks another squarely in the eye. But Henry jumped to his feet, thrust out his arm, and took the other's limp hand in greeting.

" I am very glad to know you, Mr. Black," he said. " We fellows back in the country have played at being wireless men, and it's a great pleasure to meet real wireless operators."

A sudden roll of the ship sent Henry reeling back against the wall of the wireless shack, and he realized what he had not noticed while he was still seated and engrossed in the wireless, namely, that the sea was evidently becoming rough. Henry would have been glad to stay on watch with this new operator, but the latter drew a soiled dime novel from his blouse and tilted back in his chair to read, utterly regardless of the fact that a visitor was present. The chief electrician frowned but said nothing. And Henry, seeing his presence was not desirable, turned to the chief operator.

" Would there be any objection to my looking about the deck? " he asked. " I've never been on

a ship at sea before, and I'd like to know what it is like at night on deck."

"Just come up on the bridge," said the wireless man. "There's nobody on deck, probably, but the man on watch in the bow. You'll find Mr. Hill and the quartermaster on watch on the bridge. Maybe you'd like to stand watch yourself a while. Would you?"

"I'd be tickled to death," exclaimed Henry.

"Then come to our quarters and I'll fit you out. You'll find it pretty chilly up on the bridge."

Henry turned to say good-night to the assistant operator. The latter already had his nose buried in his novel. Henry could not help but notice how the fellow's fingers were stained with tobacco, and what an evil look seemed to lurk on his countenance. He did not disturb him, but quietly followed Mr. Sharp out of the wireless shack. "I'd hate to trust the safety of the ship to a man like that," he thought, but said nothing.

The instant the door was opened, his attention was drawn to other things. Across the deck an icy blast of wind was sweeping that made Henry shiver. From above came an eerie, humming, vibrating noise, as the rigging quivered in the breeze. Only soft lights were visible—such indirect illumination as shone through ports or windows or the deck lights,—discs of heavy glass set

flush in the planking underfoot to let the sunlight into the interior of the ship. Aloft twinkled the ship's sailing lights. Beyond the rails all was inky darkness, and it was a darkness that seemed almost to be alive. Out of it came sounds such as Henry had never heard before—the swish and sweep of swaying waters, the crashing of crested waves, the interminable roar of endless leagues of rolling billows.

Henry was amazed to find how the ship was moving up and down. He tried to imitate the wireless men, who skipped quickly around the after end of the wireless shack, but a lurch of the ship sent him flying across the deck. He brought up with a jolt at the leeward rail. With a chuckle he turned about and made for the door of the operator's stateroom which the electrician was now holding open for him. A broad band of light illumined his way.

As Henry stepped through the doorway, he could see quite well what a snug little place this stateroom was. Three bunks, one above the other, occupied most of one side of the compartment. There were also a tall wardrobe, a washbowl with mirror above it, and a table with several chairs. On this table were a number of books and magazines. A young man sat at the table, his elbows on the edge of it, his chin propped on his hands, so deeply engrossed in a book he was

reading that he was unconscious of the entrance of Henry and Mr. Sharp. By the device on the young man's sleeve Henry saw that he, too, was an assistant wireless man.

"Jim," said the chief electrician.

The reader looked up, startled. Then he laid down his book and arose.

"This is Mr. Harper," said the electrician. "Mr. Harper, this is my other assistant, Jim Belford."

Henry was sure he would like this young man. The lad had a fine face, and intelligence showed in his every feature. His smile was frank and winning. The two shook hands cordially.

"So you're going to sea with us," said the lad. "Are you a good sailor? It looks as though we'd have some rough water by morning."

"I don't know," replied Henry. "I've never been to sea before. I suppose I shall know before long." Then, his eye falling upon the book the young operator had laid down, Henry said, "Don't let me keep you from your reading. You appeared to have something interesting."

The lad passed the book to Henry. "It is very interesting," he said. And when Henry examined the volume in his hand, he found that it was a treatise on electricity. He couldn't help thinking of the contrast in the reading matter chosen by the two young operators.

"You must have lots of time for reading," commented Henry, "and this is an excellent way to use it." He handed back the book.

"We are on watch four hours and off duty for eight, so we have oceans of time, and I'm glad of it. I wasn't able to finish my high-school course, and I'm trying to go on with my education. There's a good chance to work up in this service if a fellow will only take it."

"How do you get a job in the Coast Guard anyway?" asked Henry.

"The officers, of course, attend the Coast Guard Academy at Fort Trumbull, up in Connecticut. It's just like West Point or Annapolis. It trains the officers for the Coast Guard ships. Everybody else gets his job by enlistment."

"Are there good openings? Could I, for instance, get a position?"

"You could enlist as a seaman, or you could enlist for wireless duty if you know anything about wireless."

"He does," smiled the chief electrician.

"The Chief, here, would examine you. If he passed you, you'd become an assistant wireless man and rank as a third-class petty officer. This first examination is quite simple. You must be able to send and receive adequately and know how to handle your instruments, and that is about

all you need to know to pass it. Three months after you become a third-class man, you could take another examination, and if you passed that, you'd become a second-class petty officer. This second examination would deal with wireless theory and codes and the semaphore and blinkers." And noting Henry's blank expression, the young wireless man continued, " You noticed the semaphores on the yardarm on the forward mast, didn't you? And the lights there? "

" Sure," said Henry.

" Well, we no longer use flags when we semaphore. We use the semaphores up on the yardarms. At night we use those lights or blinkers and make 'em wink by electricity. It's really sending wireless messages with lights instead of sound waves."

" And how does a fellow become a first-class radio man? "

" To become a first-class man, you'd have to have a good knowledge of all parts of the ship, and all radio laws and regulations and general radio procedure. You could take your examination nine months after you entered the service, but there are mighty few radio men who are ready to take it so soon."

" What about Mr. Sharp here? He is chief electrician. How long does it take to become a chief electrician? "

"It would take at least three years to make that. You have to know an awful lot to become a chief electrician." The lad paused, then added simply: "That's what I am working for. Most fellows that qualify as wireless men have a high-school education. You see, I couldn't finish my course. It's an awful handicap to me now."

"I've been through high school," said Henry, and to himself he thought: "I'm certainly glad mother held me to it. I can see already what a difference it may make to me." A moment later he said to the chief electrician: "I hadn't any idea of ever belonging to the Coast Guard, but for a long time I have wanted to be a wireless man. Do you suppose there would be any chance for me on the *Iroquois?*"

"We have our full complement now," said Mr. Sharp. "There wouldn't be any opening on this boat unless we could get rid of—unless one of my assistants should leave."

Henry looked sharply at the chief electrician. He believed he knew exactly what the wireless chief had started to say, and he believed it had to do with the man now on watch in the wireless shack. But of course Henry made no comment. "I'd like mighty well to be a Coast Guard radio man," he said. After a moment's pause he went on: "Won't you please explain to me again about

the officers? You said they were trained at the Coast Guard Academy. And you also said a fellow could enlist as a wireless man and yet rank as an officer. I don't exactly understand."

"I don't wonder," laughed the young wireless man. "You see there are three sorts of officers—petty officers, warrant officers, and commissioned officers. The captain of a ship appoints the petty officers from the enlisted crew. Petty officers are men like the boatswain's mate, the chief yeoman, the gunner's mate, and the like. From among these the captain chooses men he will recommend for appointment as warrant officers. They get their appointments from Washington. The boatswain, the gunner, the carpenter, and others are warrant officers. The commissioned officers are the trained navigators from the Coast Guard Academy, and bear the nation's own commission as officers."

"Thank you," said Henry. "It's very plain now."

Meantime Mr. Sharp had been searching in the wardrobe. He now handed a thick sweater to Henry, and when the lad had pulled it on and buttoned his coat over it, the chief electrician produced a long, warm overcoat, which he made his visitor put on. Then, pulling on a long rainproof overcoat himself, he led the way out of the cabin. Henry said good-bye to the young radio

man, to whom he had taken a great liking, and followed the Chief.

Up to the bridge they mounted, and Henry was glad, indeed, that he was so warmly clothed. The wind swept past so fiercely that he could hardly get his breath when he faced it. A light was burning in the chart house. In the glass-fronted wheel-house the compass was dimly illuminated. Otherwise it was dark. A figure stood within, silent, almost immovable, his arms grasping the handles of the steering wheel. As Henry peered into the wheel-house, he saw that the steersman's eye was on the compass. He was holding the ship true to her course—east three-quarters south.

On the bridge itself two human forms loomed in the darkness. Lieutenant Hill was standing on the port side. He said, " Good-evening," as Henry stepped alongside him, then continued his vigil, looking steadily into the blackness of the night. When Henry crossed to the starboard side of the boat, he found Quartermaster Andrews also peering intently out over the weather-cloth. The chief electrician made them acquainted. Henry came up close to the rail and thrust his face out over the weather-cloth, but he drew it back in a hurry. The stinging blast struck him with sudden fury. He winked as though something tangible had hit him. Then

he made a wild and fruitless grab at his hat, which the wind had torn from his head. The hat lodged against the wheel-house and he rescued it.

"I had no idea it was blowing so hard," he said to the quartermaster, "and I wouldn't have believed that weather-cloth would be such a protection. Why, six inches behind it you can hardly feel any wind at all. It seems to shoot the breeze straight upward."

The quartermaster smiled. "You're right about the weather-cloth," he said, "but this isn't much of a wind yet. It looks as though we might have a gale before morning, though, and if we do you'll have a good chance to see how the *Iroquois* behaves in a rough sea. We'll be in shallow water for some hours yet, and it always gets rough out here when there is any wind."

"I should think a fellow would freeze up here in real cold weather when it blows hard. It's cold enough now. How do you ever stand it?"

"I've got on one of those wind-proof suits," said the quartermaster. "It takes a pretty stiff gale to go through that." And Henry, looking close, saw that his companion was dressed in a hooded blouse that had to be pulled on over the head, and that could be fastened tight about his head, so that only the face was exposed. The

quartermaster also wore a knitted, blue watch-cap that he could pull down over his ears.

When Henry stared into the dark void ahead of and around them he could at first see nothing. The sky was like a dome of black. No star, no feeblest ray of light of any sort, came from it. And the water beneath was its twin for darkness. Overhead the rigging sang ever more eerily, and, when the wind rose in sharp crescendo, the cordage fairly shrieked. The woodwork creaked and groaned. From every side came the tumultuous roar of the waves, a sound so overpowering, so insistent, so awesome, that Henry shuddered when he listened to it. A feeling almost of fear came to him. He could not help thinking how awful it would be if the ship should sink in such a wild waste of water. But when he glanced at the motionless figure in the wheel-house, and when he thought of the radio, he was reassured. But he would have felt safer, he thought to himself, if young Belford or the chief electrician had been on watch in the wireless shack.

Already the latter had left the bridge and returned to his cabin. But Henry stayed on the bridge a long time. Occasionally he spoke briefly to the officers on watch, but mostly he watched in silence, peering into the darkness, drinking in the sounds of the night, filling himself with new sensations, not all of which were

pleasant, for as the wind came ever stronger, and the ship rose and fell more noticeably, a strange feeling crept over Henry. He began to feel queer about his stomach.

"I must have indigestion," he muttered to himself. "Maybe I ate something that didn't agree with me."

He kept getting sicker and sicker. Soon he suspected that he was seasick. Finally he could stand it on the bridge no longer. Trying hard to control himself, he said good-night to Lieutenant Hill, and made his way with trembling limbs down the ladder to the deck. Like a drunken man he went reeling aft, for the ship was beginning to roll. When he reached the after companionway, he felt worse than ever, for the motion was much more noticeable than it had been forward or amidship. He could stand it no longer. Making his way unsteadily to the leeward rail, he leaned over it and vomited. He had never felt so sick in his life. Every minute he seemed to feel worse. He was so weak he was afraid he would fall over the rail. He decided that he would try to get to his bunk.

He turned and started toward the companionway, when the ship rolled far over on her side. As though he were shot out of a cannon Henry went plunging across the deck. There was nothing he could grasp to stop himself. With

terrific force he went crashing into the windward rail and was flung partly over it. With all the power at his command he clung to the rail as he balanced on top of it. For a moment his heart almost ceased to beat. He was afraid he was going overboard. His feet were clear of the deck. His body was half over the rail. All he could do was to cling fast, in the hope that he wouldn't slide any further. But his position was so awkward he was fearful he could not keep himself from plunging on over into the sea. Suddenly the ship heeled in the other direction. Henry was flung back from the rail as violently as he had just shot into it. This time he struck the companionway. He grasped the door, opened it, took a grip on the handrail, and tottered down the steps. He found the captain's cabin deserted. The commander had to go on watch later in the night, and was sleeping in preparation for it. Henry got to his stateroom, undressed, pulled on his nightclothes, and with a feeling of relief slid into his bunk. He had lost all interest in the sea and wireless and derelicts. His one hope now was that he would live until the *Iroquois* got back to port and he could get ashore.

CHAPTER V

THE DESTRUCTION OF THE DERELICT

HENRY awoke early next morning. At first he did not know where he was. Then he remembered all. But life no longer looked sable. Indeed, there was a rosy tinge to it, just as there was about the eastern sky. The feeling of nausea had entirely left him. Gone were the terrible headache and the feeling of sickness that had affected his entire body. Though the ship was now rolling far more than it had rolled the preceding night, the motion no longer distressed him. He rose and dressed quickly.

Early as Henry was, the captain was up before him. The captain had taken his turn on the bridge, then snatched a little more sleep, and was now busy at some clerical work at his desk. He looked up as Henry stepped into the cabin.

"Good-morning, youngster," he said. "How are you feeling? Didn't make you sick, did it? There's a pretty good sea going."

"It made me sick as a dog," admitted Henry, "but I'm fit as a fiddle now. A good sleep fixed me up."

They ate breakfast and went to the chart-room. Though the ship was far out in the ocean, it was still many hours' sail from the location given for the derelict. The captain began to study the ship's logbook, as the sailing record is called.

"See here, Henry," he remarked after a moment. "This logbook might interest you."

Henry looked at the book, and saw entered there a detailed record of what was done on shipboard, not only from hour to hour but even every few minutes. Glancing back, he saw that his own rescue was noted down, and the recovery of his suit-case, and the exact time the executive officer came aboard, as well as the time when the *Iroquois* got under way.

"Captain Hardwick," he said presently, "what does this entry about the log mean? I see it is written down every hour."

"That's the way we keep our dead reckoning," said the captain. "When we can see sun or stars, we know exactly where we are. But when it's cloudy we have to figure our position by dead reckoning. We know by our compass which way we are heading. We can tell by the number of revolutions of our propeller how fast we ought to be moving. We have an apparatus fastened to the taffrail that drags in the sea a good many fathoms behind us, and that turns like a propeller. It turns the line with it. The

line is on a swivel, and every revolution is recorded on an instrument like a speedometer. When we look at that instrument we can tell how many miles we have made. The quartermaster reads the log every hour and records the reading in this book. So we can tell pretty exactly how many miles we have traveled. We also know in what direction we went. But we can't always tell how far wind and current have put us out of our true course. We make allowance for them when we figure our dead reckoning. Usually we hit it pretty closely. But if there comes a period when sun and stars are hidden for two or three weeks, as sometimes happens, a ship's captain may be miles from where he thinks he is. Why, once we went after a steamer that sent an SOS for help, and we had a terrible time to find her because she was seventy miles from where she thought she was, and where we went to get her."

"Gee whiz!" said Henry. "How did you ever find her?"

"I'll have to tell you that some other time, Henry. I'm too busy just now."

Henry went out on the bridge, so as to leave the captain undisturbed. It was still windy and cold, but the day fairly sparkled. The sun shone through a cloudless sky. The waves gleamed and flashed in its brilliant beams. As one spell-

bound Henry gazed at the scene. Always he had tried to picture to himself what the ocean looked like. Now he knew that to picture the ocean mentally one must first actually see it. This great, boundless, inconceivable body of water was too vast for the imagination alone to picture. Turn in which direction he would, Henry could see nothing but water. And this water was rolling and tossing and surging and splashing and leaping in a manner past description. Never before had Henry seen waves higher than those in the Hudson River and the New York Bay. He had read of the huge waves of the ocean, but what he now saw, though they were far from being of the largest size, awed and impressed him. He felt sure some of them must be ten feet high. The ensign, who had now come on watch, assured him that they were all of that.

No matter where he looked, Henry saw nothing but water, leagues and leagues of tossing billows, the bluish-green depths spotted everywhere with the yeasty white of foaming wave-crests. No ship was in sight. Land was many miles behind them. Not even a bit of driftwood broke the vast expanse of the heaving ocean. The only object that rose above those miles and miles of furious billows was the *Iroquois* herself. How tiny, how puny, how insignificant, she seemed in that vast wilderness of water. For a

moment a creepy feeling again stole over Henry. Suppose something should happen to the ship. Suppose she should sink. What chance would her crew, mere pigmies, have with these giant combers? But when Henry thought of the wireless, a feeling of courage surged through his heart again, and he was thankful to the men who had labored to make the wireless possible, and thankful that he was a wireless man himself. What a wonderful thing it was, he thought, to be able to call help or to catch the cry of those who needed help. Assuredly, the wireless man carried the safety of untold lives in his hands, just as truly as the captain of the ship did. How proud an operator ought to be, and how faithful he ought to be to his trust. And again Henry frowned as he thought of the lad he had last seen on watch in the wireless shack.

Long before the *Iroquois* reached the spot where the derelict had been seen, the captain had ordered a watch in the crow's-nests; and for two hours at a time a man stood in each of these elevated lookouts, searching the seas for some trace of the lost vessel. But the spot where she had been seen was reached without the discovery of a single trace of her.

The captain was not in the least disturbed. He had had no expectation of finding her so soon. Wind and wave would have carried the

hulk leagues to leeward of the spot. It was up to the captain to find her. When Henry stepped into the chart-room again, he found the captain plotting on his chart the course he intended to follow in his search for the derelict.

When he noticed that Henry was watching him, the captain said: "That's what is called a grid. You see we start here, where the derelict was known to be some days ago, and we steer a course that will enable us to view the sea over a wide area. We try to follow the course we think the derelict has taken."

"But how could you know which way a wreck would go?" asked Henry.

"If the derelict stuck up above water much, it would go in the direction of the wind rather than the water," said the captain. "If it is mostly submerged, it would go in the direction the water was flowing. I'm going to assume that this derelict has been driven by the wind, for we've had this high southwest wind for nearly a week. So we'll cover a broad belt of sea along her supposed course."

"But how can you tell where that course is? I should think you'd get lost in this endless wilderness of water. There are no landmarks to help you know where you are."

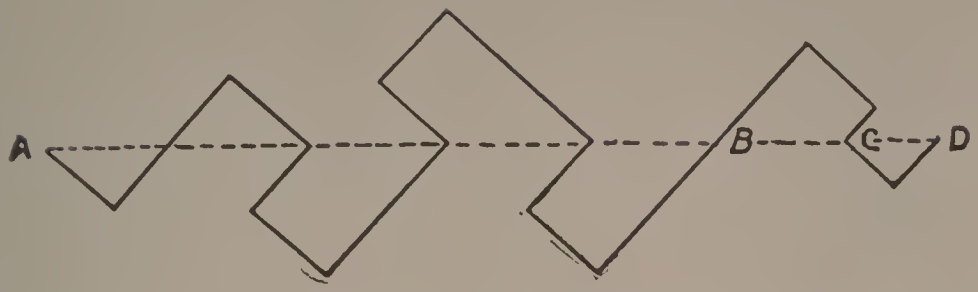
"You're wrong, young man. There's the greatest landmark in the world, right up there."

Henry looked overhead. "I see nothing but the sun," he said.

"That's all a navigator needs to see," laughed the captain. "It's just as I told you. As long as he can see the sun, or the stars, you can't lose him. When he looks at either through a sextant, he can tell exactly where he is."

"I see," said Henry. "The sun tells you your latitude and longitude."

"Correct. That dot on the chart," and the captain pointed with his pencil, "is the spot where this derelict was reported to be. Also it's just where we are now. If I drew a mark from that dot along the direction in which the wind is blowing, which is from the southwest, that should be the course of the derelict. But the current may have carried it to right or left of that line. So we have to make a grid, in order that we may not pass the derelict in our search. We will sail a course that takes us first to right and then to left of this supposed course, in such a way that we can examine every foot of the sea over a wide area. Our present grid will be like this;" and the captain drew on a piece of paper a diagram something like the following:



A—Where the *Iroquois* began her search.
B—Where the first pine boards were found.
C—Where the wreckage was found.
D—Where the hulk was found.
Dotted line A—D supposed course of derelict.

"We are now at A," he said. "We'll run off to starboard a distance, then make a right-angled turn to port, and on around so as to make a series of long rectangles, as it were. The sides of these rectangles will be as far apart as twice the supposed limit of visibility. Thus we shall be able to see everything that floats within the limits of our course."

"How far do you think you could see this derelict?" said Henry.

"Not so very far. We are looking for an old, wooden schooner. Her masts are gone and her decks are awash. At least that is what she was like when sighted. She wouldn't stick up above the water much, and this sea may have broken her in pieces. We might be able to see her five miles, so the sides of our rectangles couldn't be much more than twice that distance apart."

"That's a fine scheme," agreed Henry, "and I'll bet you'll find her."

Already the *Iroquois* had come about and was standing on the first leg of the grid. Hour after hour the cutter continued its search, covering leg after leg of the course. But neither the men on the bridge nor the lookouts in the crow's-nests could detect any particle of wreckage.

Meantime the chief electrician had been combing the seas with his wireless, asking all vessels that had seen the derelict to give the *Iroquois* what information they had concerning it.

Every three or four hours he kept broadcasting this message: "*Iroquois* searching for derelict schooner. Last reported September 25 in latitude thirty-nine, thirty; longitude sixty-six, twenty. Any vessel sighting derelict please notify Coast Guard cutter *Iroquois*. Call letters NTE."

And Henry, listening in at times, caught several messages like this: "NTE—NTE—NTE —de—KLF—Your QST acknowledged. Will keep sharp lookout. AR."

"How wonderful wireless is," thought Henry. "By means of it we can enlist every pair of eyes on the near-by ocean."

But the search by wireless was quite as fruitless as that by steam. No trace of the lost schooner could be found. All day the *Iroquois* steamed along, yet night found her unsuccessful. When dusk came, the lookouts were ordered from

the masts, the engines were stopped, and the *Iroquois* was allowed to drift before the wind, which had now considerably abated. The boat rolled and wallowed in the sea, but the waves were not now severe enough to be a menace.

"Do you think you'll find her?" asked Henry, while he and the captain were eating supper.

"If she's afloat I think we're quite likely to find her. She'll drive straight before this wind. But it may take us three or four days yet."

"Three or four days!" cried Henry, in astonishment. "Why, I had no idea a derelict could float so far or so fast."

"You see we're in the Gulf Stream, Henry," said the captain, "and both wind and tide will drive her. Why, the *Iroquois* once chased a derelict in the Gulf Stream that floated two hundred and eighty-five miles in four days. This one might go as far. And while we make a big total of miles, we don't advance so very far in one day along the course of the derelict."

It looked as though the captain's prediction of a long search was to be realized, for the second day's run was as fruitless as the first had been. Once more the cutter drifted with the wind during the hours of darkness, yet all the time she was gaining on the derelict, for, standing high above the water, she would drift twice as fast as a low-lying hulk.

At noon the next day the *Iroquois* had reached the point marked B on the diagram. Here the lookouts discovered three pine boards. They were floating almost exactly in the line the captain had drawn as the probable course of the derelict. Instead of standing on this leg of his grid as usual, the captain ran on for only three or four miles further, and then came about to starboard. This tack brought him once more across the supposed line of the derelict's path. Here some bits of wreckage were seen. It now seemed certain that the wreck had come along the line indicated in the captain's diagram, and must, therefore, be straight to leeward. A few moments later the matter was definitely settled, when one of the lookouts spied a floating hulk exactly in the direction indicated. The cutter was brought about and headed straight for the derelict. In less than half an hour the *Iroquois* was rolling upon the waves, only a few hundred yards from the derelict.

But how different this was in appearance from the craft Henry had been expecting to see. He had looked for a boat with its masts snapped off, riding low in the water, with the waves washing over its deck. Instead of that there lay before them about half of the hulk of a boat, bottom up. Evidently the craft had been broken in half by the storm. The after part had no doubt sunk, but

the forward end continued to float, upheld by the air imprisoned within her. The broken midship section floated low under the waves, while the bow projected well above the water. Her bottom was dark and slimy, and Henry shuddered as he looked at the monster, for monster she was, a floating monster, lying in wait for other creatures of her kind. And Henry thanked fortune that the *Iroquois* had not run upon this lurking death in the darkness of the night and torn herself apart, to drop to the floor of the ocean, even as half of this derelict had already done, and as the other half was so soon to do.

For no sooner had the *Iroquois* lost headway than the gripes were unfastened on one of the small boats, the falls loosened, and the boat lowered level with the rail. Meantime, the necessary materials for destroying the derelict had been assembled. These were now lifted aboard the small boat and the crew leaped in after them. Then Lieutenant Hill, who was to command, took his place in the stern. Oars were gotten ready, and at a favorable opportunity the boat was dropped gently into the waves. In a moment she was riding safely at a little distance from the *Iroquois,* and her oarsmen were bending to their oars.

How astonished Henry was as he watched the little boat fight its way over to the derelict. Now

it went up, up, up, until it reached the very crest of a wave, then it dropped into the trough-like depression just ahead and was almost lost to sight, only to come shooting upward again on the next billow. So it made its way to the derelict. Meantime the entire crew of the *Iroquois* leaned over the rail, watching.

To the astonishment of the onlookers, the small boat turned shortly after it reached the wreck and pulled straight back to the *Iroquois* without making any attempt to destroy it. The captain awaited the return of the boat by the leeward rail.

"What's the difficulty, Mr. Hill?" he called, when the small boat came within speaking distance.

"We need some storm oil and a drip-bag," shouted the lieutenant through cupped hands. "It's so rough that we can't get close to her."

The desired materials were brought and the small boat returned toward the derelict. Meantime, the oil had been poured from the can into the drip-bag, which was merely a conical bag of tightly-woven duck stuffed with oakum. When the boat had pulled some distance to windward of the hulk, a sailor jabbed several holes in the drip-bag with a knife-point, and the bag was hung out over the water on the end of an oar. But apparently the effect was not all Mr. Hill

hoped for, for presently the boat pulled around to leeward of the hulk and the dripping process was repeated.

"What are they doing?" asked Henry.

"Oiling the water," said the executive officer, who stood near him. "That is to stop the waves from breaking."

Henry had heard that oil would still the troubled waves, but it hardly seemed credible that little drops of oil could produce the effect he now witnessed, for slowly but surely the sea about the derelict grew calmer. To be sure, the water still rose and fell, but no longer did the wave crests break. Like a billowing sea of glass was the ocean, rather than a storm-torn sheet of water.

Now the small boat came close to the old hulk. A length of strong wire, with a mine attached, was fastened to the hulk, and the mine lowered so that it hung just below the bottom of it. Then the small boat rowed off to windward, paying out as it went the detonating wires attached to the mine. Three hundred yards away the boat was stopped. The lieutenant touched off his electric battery. There was a tremendous explosion. The sea heaved upward like a waterspout, and great pieces of the shattered bottom of the derelict were blown aloft, shooting up and up and up until they were a thousand feet in air. Presently they came raining down again, some

of them dangerously close to the *Iroquois'* small boat.

When Henry looked at the sea again, the derelict had disappeared. But several dangerously large pieces of the hulk still floated. Immediately Lieutenant Hill began to herd these together. When they were all collected, the sailors lashed them together, a second mine was secured beneath them, and once more the small boat pulled away to the length of the detonating wires. Again there was a terrific explosion, and this time the shattered bits of wreckage shot even higher into the air than they had gone before. When they had all dropped back into the sea again, the small boat rowed back to where the derelict had been, but nothing big enough to menace navigation now floated above the waves.

Lieutenant Hill turned his boat toward the *Iroquois*. A few minutes later the dripping craft once more hung on its davits, securely lashed to its strongback. The men had returned to their stations, the propeller was churning the salty sea, and the *Iroquois* was speeding back to her anchorage off Staten Island, with her task accomplished, and the pathway of the ocean freed of one more menace.

Truly, Henry thought, it was a great thing to belong to the Coast Guard. If there was any way by which he could accomplish it, he meant

to become a wireless man on a Coast Guard cutter. His decision had been made. He knew he would never be satisfied until he, too, wore a blue uniform with red electric flashes and some red bars on his blue sleeve. But how he was to accomplish his end was quite another matter. There was evidently no place for him on the *Iroquois,* and probably every other cutter in the service had likewise its full complement of wireless men.

CHAPTER VI

A CALL FOR HELP

YET Henry, having come to a decision, proceeded with characteristic directness to try to accomplish his purpose. The minute he had an opportunity to speak to the commander alone, Henry said to him, "Captain Hardwick, I've decided that I should like to become a Coast Guard wireless man. Ever since my old chum, Roy Mercer, became wireless man on the *Lycoming,* I've thought that I should like to have a similar job. Yet I wasn't quite sure that I should like the sea. Now that I've seen the ocean, I have come to a decision. Is there any way I can get a job in the Coast Guard as a wireless man?"

"Just at present we have our full complement of wireless men aboard the *Iroquois,*" replied Captain Hardwick, "so there is no opening on this vessel. There might be on some other ship. But in any case, you would have to take an initial examination at the hands of a ship's chief radio man. You might as well take an examination here and now. Mr. Sharp will put you

through your paces, if you like, and you will know whether you are competent to fill the place you want. If you are not, Mr. Sharp would be glad to coach you, so that you could become competent. So, whether there is an immediate opening or not, this really looks like an opportunity for you, doesn't it? And if you prove to be competent, I can recommend you to another commander."

"You are very kind, Captain Hardwick. I see that it *is* a real opportunity. And if Mr. Sharp is willing to examine me, I'll be only too thankful to him and to you."

The captain rose and rang his call-bell. "Rollin," he said, when his attendant appeared, "tell Mr. Sharp that I would like to speak to him."

In a few moments the chief electrician knocked and entered the cabin. The commander said to him, "Our young friend here," indicating Henry, "has decided that he wants to become a Coast Guard radio man. I told him we had no opening for him on the *Iroquois,* but that we would examine him anyway and see whether he is qualified. I wish you would see what he can do, Mr. Sharp. Test him out thoroughly, and if he is a little weak, I would like it if you would coach him a bit. When will it be convenient for you?"

"I go on my regular watch in half an hour, Captain, and we would then be uninterrupted. I could give him a thorough examination."

"Very good. That is the arrangement, then."

Half an hour later Henry joined the chief electrician in the wireless shack. The latter first questioned Henry concerning the equipment and the theory of wireless. He found that Henry had a good basic understanding of these matters. The brand-new instruments that Henry had not hitherto been acquainted with, he understood at once when their operation was explained to him. In general knowledge and understanding Henry was, the examiner found, fully the equal of even a first-class radio man. When it came to operating the key, Henry showed that he was very proficient. That the chief electrician already knew. Nevertheless he examined Henry thoroughly. He made him flash out all the letters of the alphabet. Then he gave him a message to send, and told Henry to get it off at his best speed. Henry called the imaginary party to whom he was signaling and then dashed off the message almost as fast as the chief electrician could have done it himself. His sending was flawless.

"Now let me see how you receive," ordered the chief operator.

Both men sat with phones strapped to their

heads. Henry began to search the air for messages, shifting from the very short wave-length at which he was operating up through the longer wave-lengths. Suddenly he ceased his shifting, and, seizing a pencil, wrote down this despatch: "Hurricane warning displayed 10 P. M. in Louisiana, Alabama, extreme northwest Florida coast. Storm now central about latitude twenty-seven north, longitude ninety-two west. It has reached hurricane intensity and is apparently moving northeastward toward the Louisiana coast which it will reach late to-night or to-morrow morning. Dangerously shifting gales indicated."

When Henry had finished taking the message, he tore from the pad the sheet on which he had written and passed it to his companion. The latter also had been copying the message. "Absolutely correct," he said. "I'll give you one hundred on that."

"And what will you give me on my entire examination, providing, of course, that the examination is ended?"

"It is. I can't see that you lack anything as an operator. I'll have to take off at least one point for your unfamiliarity with the new instruments. That would give you 99. I'd hate to give you such a grade, though. That would be too good to be true. I'll mark you 97."

"But suppose I deserved the 99. Would that be fair?"

"Young man," said the chief electrician, "I reckon there's mighty few of us can qualify as being so near perfect. You ought to be mighty well pleased to get 97. The passing mark is 75, and mighty few ever get much above 90."

"Oh! I am well enough pleased," Henry went on. "But that wasn't the point. It's a question of what I deserve."

"I'm giving you all you deserve—maybe more than you deserve."

"Then mark me down," objected Henry. "If I deserve 99 I think I ought to have it. And if I don't deserve 97, I ought not to have 97. I want what's right. This examination is taken under somewhat unusual circumstances. I realize that. And I don't want anybody to think it wasn't perfectly on the level."

"Don't you worry about that. I'll give you a grade that I think you are justly entitled to, and I'll stand back of that grade to the last ditch. When we get right down to it, there's more at stake than the matter of your grade. There's my ability and honesty as an examiner. I'm not forgetting my own reputation in giving you your grade. That will be 97. Now I must copy in my log the message you caught."

"What do you mean?" asked Henry.

"Why, you know the wireless man has to keep a wireless log just the same as the navigator has to keep a navigator's log. I have to be able to show what goes on in the wireless house."

"Just as we had to keep a record at the Frankfort station, I suppose. What do you put in your logbook?"

"Well, every day when we are not in port I have to send our position at certain hours to the radio station in the Brooklyn Navy Yard. I have to send all other messages. Records of these must be kept. All storm warnings and naval-station broadcasts must be taken. I must record the messages received, and, from time to time, something that one picks out of the air should be entered, merely to show that the radio man was on his job. So I'll just enter that hurricane warning. It doesn't concern us, but if it did affect us, I'd have to take it to the captain at once."

"You said you had to send all messages," replied Henry. "You didn't mean that you send every message yourself, did you?"

"That's exactly what I meant. I can't take a chance on having anything happen to this outfit. I'm responsible for it, and if it got burned out, the result might be a court-martial, with possible dishonorable dismissal and loss of citizenship. You see our power transformer steps the

current up to eight thousand volts. A green operator doesn't understand the rheostats, and would allow too great a voltage to pass through the generator. That would burn out the transformer or puncture the condensers or break down the insulation in the spark-gap, according to which was the weakest. We usually carry spare condensers and spare jackets for the spark-gap, but no spare transformer. It's a mighty serious thing to burn out a wireless set. If anything happened to the ship, there would be no way to call help, and the entire crew might, consequently, be lost."

During the chief radio man's entire watch of four hours, Henry sat with him in the radio shack. After the examination was ended, Mr. Sharp connected up with the loud speaker of the radio, and the two watchers laid down their headphones. They could talk freely. The loud speaker would tell them of every message in their wave-length that passed their way. To Henry this was, indeed, a rare opportunity. Again and again he went over every detail of the wireless apparatus, until he could have reconstructed the intricate outfit alone, had it been taken to pieces. And he asked the chief electrician countless questions as to wireless practice. With the wide knowledge he already possessed, he was in a position to learn much in a short time. When

he left the wireless shack at the end of the watch, Henry felt that he had added much to his ability as a wireless man.

If Henry could have heard Mr. Sharp's report to Captain Hardwick, he would have been pleased, indeed. For the chief electrician went immediately to the captain's cabin when the watch was ended.

"Does he know anything about wireless?" asked the commander, when the chief radio man told him the examination was over.

"He's a dandy, Captain," smiled the wireless man. "So far as the matter of wireless comprehension and ability to receive and send are concerned, he's easily superior to my regular assistants, much superior. But what I like about him is his spirit and his comprehension. He's anything but a dumb-bell. I think he's fairly entitled to a grade of 97 on his examination."

The captain smiled. "I guess you are favoring him a bit," he said.

"No, I am not. You see he has had an excellent training. He was a substitute operator in the Frankfort government station for a time. They employ only first-class men in such a station, you know."

"I'm glad to have such a favorable report of him. I've taken a great fancy to the lad, and wish he could be one of your assistants."

"So do I," said the chief electrician.

"You might coach him a little and help him get ready for his second examination. He'll be taking it somewhere sometime."

"I'll be glad to do so, Captain."

When Henry came to the cabin for the next meal, the captain said, "Mr. Sharp tells me your work was sufficiently good to pass you. I am glad. I wish there were a vacancy here to which I could appoint you. I hope you will keep on studying and practicing so as to acquire real proficiency. If you do, I shall be glad to do all I can to help you get a job."

"I don't know how to thank you, Captain Hardwick," said Henry gratefully. "What I can't understand is why you should be willing to do so much for a boy who is a perfect stranger to you."

"Would you really like to know?"

"Indeed I would."

"Then I'll tell you. It is because of what I read in your face."

"What can you read in my face?" cried Henry in amazement.

"A great deal that you don't dream of. Perhaps you do not know that all of us write our histories on our faces."

"Our histories on our faces!" repeated Henry. "What do you mean, Captain?"

"I mean just what I say. I know exactly the sort of boy you are, just as well as though I had known you all your life. And I would know just as truly if you were mean or cowardly or dishonest."

Henry was too much astonished for words. The captain's remark made him very serious for a time. "Gee whiz!" he thought. "If what the captain says is true, a fellow has to be mighty careful what he does. Why, just think of all the wonderful things that Captain Hardwick has done for me, and he says he did them because of what he read in my face. I can hardly believe it. Yet there must be something in it, for there are those two assistant radio men and I dislike the one and like the other, and it's nothing in the world that makes me feel that way except their faces. Gee! I'm glad the captain didn't dislike my face. And if what I do is going to affect my face and so affect my fortune, you can bet I'll be mighty careful what I do."

Imbued, from this time forward, with the idea of becoming a radio man, Henry spent much of his time in the radio shack. His friendship for young Belford grew rapidly, and the two spent many pleasant hours together. They were about of an age and had much in common. Henry tried to be friendly with young Black, too, but the latter did not seem to welcome his advances.

Nothing seemed to please him. He did not like his life on the *Iroquois*. He said his job was a miserable one, and when Henry asked why it was distasteful, he replied that being a radio man wasn't bad in itself if only a fellow had decent companions to work with. Nobody, he said, could be expected to like his work if he had a boss like the chief electrician.

"Why don't you like the chief electrician?" Henry asked the lad.

"He's a slave driver. He's nothing but a crank," and the lad swore viciously.

"Why do you think he is a crank?" asked Henry.

"He's too particular," and again he swore. "And he won't let anybody touch his blamed old key but himself. You might think he owned it."

"But just think," urged Henry. "This outfit is worth ten thousand dollars. If it's harmed, he is responsible for the damage."

"Who'd hurt his old wireless? And, anyway, why should he care? It's Uncle Sam's, ain't it?"

Henry was shocked at the lad's attitude. He wanted to tell him that if Mr. Sharp considered his assistants fully competent to operate the wireless, he would doubtless gladly let them do their full share of the work. But he knew that would lead to a disagreeable argument, if not indeed to

an open quarrel, so he passed the matter off by saying, "I suppose he has reasons we don't know about."

"Reasons," sneered the operator. "Sure he has, and I know what they are. He don't want nobody but himself to get ahead. He wants to make me stay a third-class man. He ain't willing to let me use the instruments so I can learn more about it. Oh! His reasons are plain enough. He's got it in for me."

"How long have you been on the *Iroquois?*" asked Henry.

"Six months."

"Then I suppose you have taken your examinations for second-class operator."

"Yes. And that old dumb-bell flunked me," and again the lad swore viciously.

But Henry had little time to ponder over the grievances of the radio man, unreasonable though he believed them to be. Every minute was filled with interest. Particularly was he pleased when a message came out of the air for the *Iroquois,* ordering her to proceed to Boston to take aboard certain stores at the Boston Navy Yard. Henry had never dreamed of seeing Boston, and he was overjoyed at the prospect. It might give him an opportunity to see Bunker Hill and other historic spots he had read about.

The *Iroquois,* in her pursuit of the derelict,

had run well up the New England coast, and it was not much out of her way to touch at Boston. The captain headed direct for that city, and Henry was looking forward to seeing, within a few hours, the scene of the Boston tea party, when another message came whining through the ether that made Henry for a time forget all about Boston. For this new message Henry read in the radio shack as young Black, who was on watch, copied it down. It read as follows:

> "First mate nearly dead with fever. Can you give medical assistance? Heard you give your location. Our position is forty-three north latitude, sixty-five west longitude. Will stand by for reply."

The message came from a Norwegian tramp steamer, the *Viking*. Henry volunteered to take the message to the captain's cabin. When the commander had read the message, he drew a chart from a drawer of his desk and picked up pencil and ruler.

"We ought to be about at forty-one north and sixty-four west," he muttered, marking the spot on his chart. "The tramp is here," and he made a second dot on his map. He drew an equilateral triangle on his map and noted where the shoreward apex fell. "We won't have to go a fathom

out of our way," he said. Then he drew a radio telegraph blank from the pigeonhole of his desk and wrote this message:

> "Proceed to sixty-seven west and forty-two north and wait for the *Iroquois*. Will send surgeon aboard."

When Henry returned to the radio shack with the message, the chief electrician was there. "Would you like to send the message yourself?" he asked.

"Indeed I would," said Henry.

"All right. Go ahead."

Henry sat down and flashed out the message as rapidly and surely as Mr. Sharp would have done it himself.

"Enter that in the log," said the chief to young Black.

The latter said nothing. Sullenly he picked up a pen and made the entry. But if black looks could have killed anybody, both Henry and the chief electrician would have dropped dead in their tracks. Before the young radio man had finished writing, another message came crackling aboard: "Will meet you sixty-seven west, forty-two north."

CHAPTER VII

A TRAMP OF THE SEAS

IMMEDIATELY Henry made his way to the captain's cabin again. He handed a copy of the despatch to the commander.

"Thank you," said Captain Hardwick. Glancing at the message, he muttered his approval. Just then the chief engineer, whom the commander had summoned, came into the cabin.

"Mr. Farley," said the commander, "there's a tramp a little farther up the coast that just sent us a wireless for a doctor. Mate's sick. We've told her where to meet us. It will take several hours to reach her. We're making about twelve knots, aren't we? Suppose you push her up to top speed, fifteen knots. We can slow down again after the doctor has seen the sick man."

"Very well, sir." And the chief engineer withdrew.

At once the captain went to the chart-room. Lieutenant Hill was on duty. Together they figured out the new course and gave the direction to the helmsman, who brought the ship about. Meantime the vibration of the ship became more noticeable, and the grinding noise of her machin-

ery grew louder. She began to forge ahead faster and faster. Soon she was throwing up a big bow wave and plunging through the seas at a fast pace.

Although the wind had abated and the seas were greatly lessened, the *Iroquois* rolled more than she had rolled before, even when the wind was at its worst. That was because the ship was now running almost in the trough of the seas, whereas during the trip up the Gulf Stream both wind and seas had been almost dead astern.

For a time Henry stood on the bridge, watching the clear and sparkling sea. The quartermaster, Mr. Andrews, was also on watch, with the lieutenant. Henry was much drawn to the quartermaster. He was a young fellow not many years older than Henry himself. He had a fine fresh face, and his eye was alight with ambition. His every movement suggested strength and energy and determination. As the ship's bell struck the hour, he said: " I must look at the log. Would you like to come with me? "

" Sure," said Henry, and the two slipped down the ladder to the deck and skipped aft. Henry was getting his sea-legs fast.

Attached to the taffrail Henry saw the log the captain had described to him. It appeared to be merely a long piece of heavy twine, trailing behind the ship. But it was revolving fast.

Henry looked over the rail at the little dials that registered the revolutions.

"We're going a bit faster," said the quartermaster.

"Yes," replied Henry. "The captain has put her under full speed." And as they returned to the bridge Henry asked, "How do you like life at sea?"

"First rate," said the quartermaster. "There is always something to do, the pay is good, and there are opportunities for advancement. The captain is teaching me navigation, and some day I may be able to qualify as an officer in the merchant marine. He's a grand man, is the captain."

"I believe it," said Henry. "He sure has been fine to me."

"He is to everybody who acts right. But, oh boy! You want to look out for him if you don't do what's right."

The ship rushed on. After a long time the quartermaster said, "Do you know where we are to meet that tramp?"

"Yes," said Henry. "At sixty-seven west, forty-two north."

The two stepped into the chart-room and looked at the marks on the chart. "We ought to sight her within a few minutes," remarked the quartermaster.

"May I go up in the crow's-nest and look for her?" asked Henry.

"Certainly, but be careful. If you aren't used to climbing aloft, you might get a nasty fall. Take these glasses, but be careful of them."

Henry slipped the binoculars into the pocket of his coat, buttoned that garment tight, and started up the forward mast. He soon found that the quartermaster had told the truth. The rolling of the ship had seemed bad enough on the deck, but up the mast it seemed a hundred times worse, and the higher Henry went, the more violently the ship seemed to roll.

In a sense Henry was right. His position was now like that of an inverted pendulum. When the ship rolled to one side, he was carried far out by the mast, until at times his body hung over the open sea, beyond the side of the ship. Then as the ship righted and rolled in the opposite direction, Henry's body shot through a wide arc and out over the other side of the vessel, for the ship was rolling at times at an angle of more than twenty degrees. At the first big roll Henry was almost frightened. He felt himself going, going, going, and he was sure the mast was going to give way and go on over with him, pitching him into the briny deep. But just when he was sure the *Iroquois* must be turning over, she righted herself with a snap like the lash of a whip.

Henry's grasp was almost broken. He could hardly keep his feet on the ladder-rungs, either. Tightening his grip, he mounted upward as fast as he could, and presently found himself safe in the crow's-nest. He sighed with relief. As long as the mast stood, he knew he was safe here.

Intently now he swept the northern horizon with his glasses. Soon he noticed a ship, but a moment's study showed him it was heading out to sea. Astern of her he soon saw another vessel. That one, too, was outward bound. But when he brought his glasses farther around toward land, he espied a steamer heading inward. He studied her intently. He thought she was sailing in a long diagonal, as though to cross the course of the *Iroquois*. For fifteen minutes he watched her. By this time both ships had traveled some miles, and the strange ship was much nearer. Her great bow wave showed she was being driven hard. There could be no doubt as to her course being diagonal with their own. The men on the bridge could now see her, too, so Henry pocketed his glasses and carefully climbed down again.

"I guess that's the *Viking*," said the quartermaster. Henry was surprised to find how little could yet be seen of the ship from the bridge.

"Couldn't we find out by wireless?" asked Henry.

"Sure. We can ask Sparks to give 'em a call."

"I'll do it," said Henry, and he skipped down to the wireless shack. He never overlooked any opportunity to see the wireless man work his key.

At Henry's request, the wireless man gladly agreed to call the *Viking*. He threw over his switch and pressed the key, and Henry sat fascinated as he saw the bright flashes leap and crackle with the pressure of the key.

"WXY — WXY — WXY — de — NTE," called the operator.

Promptly came the response, "NTE—NTE —NTE—de—WXY—K."

"Can you see anything of the *Iroquois?*" asked Mr. Sharp. "We see a big freighter off our starboard bow, but don't know if she is the *Viking*. Please give us your bearing on *Iroquois*. Will stand by for reply."

Presently came an answer. "Can see you plainly. Bearing is south three-quarters east. You are only four or five miles distant."

"That's the *Viking* over there, without question," said the wireless man as he shut off his power. "Her bearing from us is exactly the opposite of our bearing from her. That would make it north three-quarters west. Take a look at the chart and you will see how it is."

Henry ran to the chart-room and laid a ruler

along the course indicated. It pointed straight from the position of the *Iroquois* in the direction of the oncoming tramp. Then Henry stepped to the bridge.

Rapidly now the two steamships drew nearer, converging toward a common point. As they approached closely enough for each to examine the other well, the sailors on the *Iroquois* crowded to the forward rail, while a row of sailors could be seen lining the side of the *Viking*. The latter was a large, clumsy-looking cargo-boat, and was quite evidently not in the best of condition. She needed paint badly. Great rusty blotches marred her dark sides. Her rigging looked rickety. Huge derricks rose fore and after, and the derrick-booms were lashed horizontally, producing a peculiar appearance. At a little distance she looked as though she were equipped with elevated plank-walks. Her decks were littered with cargo. When the two vessels had come close to each other, both were stopped, and preparations were made to put the doctor aboard the *Viking*.

A small boat was lowered on the leeward side of the *Iroquois,* and the doctor and the crew stepped into her as she dropped level with the rail. The doctor carried his medicine case. Suddenly Henry turned to the captain, who was watching operations. "Might I go along?" he asked.

"Do you want a passenger, Mr. Hill?" asked

the captain, for the lieutenant was in charge of the boat. "Mr. Harper here would like to go."

"Jump in," was the lieutenant's reply, and Henry scrambled over the rail into the waiting boat.

In another moment the boat was far on its way to the *Viking,* the men bending vigorously to their oars. How she did rise and fall. But Henry was not now alarmed by the motion, as he might have been earlier. A ladder was lowered from the *Viking* as the small boat drew near. The little craft was laid skillfully alongside, the sailors made fast with their boat-hooks, and the doctor scrambled up the ladder, followed by the lieutenant and Henry. Some of the sailors also came aboard.

The captain welcomed the lieutenant and the doctor warmly, and then led the way to the officers' quarters. The officers were plainly foreign. They were bearded and ruddy, with light hair, and with the strong, honest countenances so typical of Scandinavians. Henry knew without being told that they came from Norway or Sweden. They were decently dressed in the customary uniforms of sea officers.

Curious to know how a merchantman's cabin compared with that of the *Iroquois,* Henry followed the doctor. He found the officers' quarters

very comfortable, but not nearly so elaborate as those on the Coast Guard cutter. The mate was in his bunk, and was quite evidently very ill. He was pale and wasted and he tossed feebly on his mattress, muttering unintelligibly in his native tongue. Plainly he was out of his head. The room smelled close and foul, with that sour, offensive odor so peculiar to sick rooms. It was more than Henry could stand, and he retreated to the deck.

With interest he examined the big freighter. It was the first time he had ever been aboard such a vessel. She was a ship of good length, built for capacity rather than speed, and her lines were as ample as those of a Dutch *hausfrau*. They made the boat appear clumsy. She was cut low amidship, her forecastle and afterdecks being built at a higher level. The long stretch of clear deck, unbroken by superstructure, made the craft seem longer than she really was. Fore and aft rose the enormous cargo-derricks, which had been so conspicuous from a distance. And Henry was interested to see how the derrick-booms were lashed in their places. The cargo hatches were mostly battened down.

But Henry had little interest in anything else, once he had a good look at the crew, grouped along the forward rail. When he saw them, it seemed as though he had somehow been magically

transported of a sudden to a strange and foreign land. Never had he seen such a queer-looking lot of men as these sailors. There were Chinese, with their yellow, sickly-looking skins and dark crowns and curious-shaped eyes: and Lascars, swarthy and stolid and mysterious looking: and little, black-eyed Japanese, with their straight, coarse black hair and inscrutable faces. And the sounds—the grunts and curious guttural mumblings—that arose among these Oriental sailors were as odd and unintelligible as the men themselves appeared to be. Henry wondered how white men could possibly bring themselves to live with such seemingly uncongenial companions in such an isolated and lonely place as an ocean-going steamer. Much as he thought he would like life at sea, he was certain he would not like it if he had to live under such conditions.

When Henry's eye caught sight of the wireless antennæ, he decided at once to visit the wireless man. Following the lead-in wire with his eye, he located the wireless shack, and promptly knocked at the door. He was both surprised and pleased when the door was thrown open and a cheery voice said, in good English, though with a foreign accent: "Good-day, sir. I am glad to see you. Won't you come in?"

"Thank you," said Henry. "I will be glad to come in. I am interested in wireless."

"Are you an operator yourself?" asked the *Viking's* wireless man.

"Not exactly. I was an operator at one of the United States stations for a little while. I am trying to get a place as operator in the Coast Guard. I'm taking a trip with the *Iroquois* now. It's my first trip at sea."

"Then you can read and send readily."

"Oh, yes."

"Would you like to say 'How do you do' to the operator on the *Iroquois?*"

"Be tickled to death," said Henry.

"Very well. Do it," said the operator.

Henry sat down at the *Viking's* key and threw on the power. "NTE—NTE—NTE—de—WXY," he flashed. And, almost before he had taken his finger from the key, there came crackling in his ear the reply: "WXY—WXY—WXY—de—NTE—K."

Even had he been a thousand miles away, Henry would not have needed to inquire who was sending. There could be no mistaking the smooth, even, rapid telegraphing of Mr. Sharp.

"Hello, Mr. Sharp," rapped out Henry. "This is Henry Harper. The operator has been courteous enough to allow me to use his equipment. The *Viking* is a very interesting boat."

Henry almost said she was a mighty curious old tub, but he remembered in time that his host

could read all he was sending. He was about to add more, when he saw the lieutenant and the doctor step on deck. So he said good-bye, thanked the operator for his courtesy, and joined the little group from the *Iroquois.*

The more he saw of the freighter, the more he was pleased with his own little boat. The *Viking's* wireless did not compare with the equipment of the *Iroquois,* any more than the rest of the boat compared with the cutter for comfort and looks. If there was anything lacking to make Henry sure of the difference, he found it when the doctor went into the forecastle, to treat a sick sailor.

Henry went, too, but he did not remain long. The frightful smell in the crew's quarters almost sickened him. Everything was dirty and foul and disorderly. Henry knew that in the crew's quarters on the *Iroquois,* though there was not much room, and there was more or less odor from the cook's galley, at least everything was scrupulously neat and spotlessly clean. All that he saw made Henry the more certain that he had chosen wisely in planning to get into the Coast Guard service. And when he stepped to the deck and found himself at close quarters with the crew, he knew he had made no mistake. Some American sailors might be "tough," he thought, but they were a million times more desirable as shipmates than these unintelligible Orientals.

Henry was glad enough when the doctor at last reappeared on the deck and prepared to return to the cutter. Good-byes were said, the *Viking's* captain thanked the doctor and the lieutenant, Henry called farewell to the wireless man, and in a minute or two the little party from the cutter was bobbing up and down again on the waves, on the way to the *Iroquois*. Then the small boat was hoisted, swung inboard, and made fast. The ship's propeller began to revolve, the water foamed at the bow, and, swinging into her course once more, the *Iroquois* was soon speeding toward Boston.

CHAPTER VIII

IN THE CRADLE OF THE DEEP

IT was already dusk and night was at hand when the *Iroquois* was ready to head for Boston. Already those off duty had eaten. The captain, however, still remained on deck. He waited to make sure the ship was on her proper course, for the new ensign was the only commissioned officer now on duty, and the captain hesitated to allow him to figure the course alone. But the ensign did it with the captain looking on, and set the course with perfect accuracy.

"Very good," said the captain. "We have something like two hundred miles to go, and we stand on this course the entire distance. Tell the helmsman to hold her northwest three-quarters west."

The ensign delivered the message, and the captain heard the man at the wheel respond: "Aye, aye, sir. Northwest three-quarters west." Then the commander headed for his supper.

Henry stood at the foot of the ladder, waiting for him. "Captain Hardwick," he said, "the quartermaster has asked me if I would take supper with him. May I?"

"So you're tired of the old skipper already, are you?" laughed the captain.

Henry was a bit embarrassed. "No, indeed, I am not, Captain, but you see, I—I ——"

"Run along, lad, and enjoy yourself. The old skipper has eaten by himself too long to be worried about one more meal *à la solitaire.*" And he patted Henry gently on the shoulder.

Henry was more than glad to be allowed to eat with the quartermaster. He liked him greatly, and, furthermore, the latter had offered to show him the forward part of the ship. Excepting for his hurried trip to the fireroom and back, when he had caught a glimpse of the interior of the *Iroquois,* Henry had as yet been nowhere below deck except in the captain's cabin and in the wardroom. His visit to the *Viking* had made him curious to see just how the sailors on the *Iroquois* did live, anyway: and he knew he would see them in their true colors if he went with the quartermaster. There wouldn't be any standing at attention, as might be the case if the captain was along. But before they could do any sightseeing, the two young men had to eat.

As they climbed down the steps to the mess room forward, Henry said to his companion: "I wonder why the captain prefers to live alone in his cabin. Of course it's all right to be alone

when he wants to work or read, but I should suppose he'd prefer to live with his officers."

"The matter of preference doesn't enter into it," said the quartermaster. "He has to live alone in his cabin. The service regulations require it."

"I don't see any sense to that," said Henry.

"Perhaps not. But you would if you were a seaman. Rules like that are necessary to preserve discipline. The captain must be the absolute and unquestioned boss. His word is law on shipboard. That is necessary for the safety of the ship. And everything is done to make his subordinates understand that he is absolute. This matter of living apart emphasizes all this."

"I see," said Henry. "And I suppose the same reason holds for the officers living in the wardroom."

"Exactly."

"But what about the warrant officers? They have to be obeyed, too. Yet they don't seem to be singled out in this way."

"Oh, yes they are. You know there are four messes on this boat—the captain's mess, at which you have been eating, the wardroom mess, the warrant officers' mess, and the general mess for the crew."

"I see," said Henry. "But what do you do

in a case like the present? It must be an hour or more since mess gear was piped."

"Oh, there's always a second mess for those who are on duty at meal time. We'll not have any trouble about that."

By this time the two had taken their seats at the general mess table in the forward part of the ship. The crew had eaten and gone away, but a few seamen who had been on duty were now seated at the long table. A mess attendant brought Henry and the quartermaster food, and the two ate heartily. As they ate, Henry talked with the seamen about him. At first he didn't know how to engage them in conversation, but when he mentioned baseball, they responded readily enough. The world's series was near at hand, and Henry soon found that there are no keener baseball fans than American sailors. In a little while he was on good terms with a number of seamen.

When the meal was ended, they went direct to the fireroom, descending by iron steps into the very bowels of the ship. The farther down they went, the hotter it became, and Henry wondered how men could ever endure it to work in such heat. In front of the furnaces the heat was simply unbearable, and when the firemen threw open the furnace doors, Henry backed as far away as he could. It seemed as though the awful

rush of heat would roast him. Yet the stokers stood directly before the open doors and worked at the glowing fires. Henry was surprised to see that they wore thick flannel shirts. Later he learned that without those shirts they could hardly have endured the heat, either. The wool shut out the terrible heat. These stokers were on duty only two hours or so at a time. Even such short watches were exhausting. And when Henry and his guide later came up from the fire-room, they noticed firemen, black with coal dust, stretched out here and there in the passages, sleeping soundly on the hard floors, where they had dropped when they came out of the fireroom.

The great boilers and the huge engines interested Henry greatly. How smoothly the pistons shot back and forth, how the various wheels turned endlessly, how the great shaft revolved ceaselessly. Henry saw the oilers passing from part to part of the engine-room, watching, oiling, tightening or loosening nuts, wiping this or that with oily rags, always alert, watching their engines as a mother watches her child. When Henry thought of the grimy coal passers he had just seen, conveying the fuel for the furnaces, and the men keeping the fires at red heat, and the engineers watching the great machines that drove the ship, and the sailors standing watch forward in the dark, and the helmsman at the

wheel, with his eye directed steadfastly at the compass, he saw how necessary every part of the ship was to the other parts, and how especially necessary it was that the man in charge be ever vigilant, and that instant and unquestioning obedience be rendered to him. Henry began to see why it was a good thing for the captain to live in state, alone.

It occurred to him that there must be quantities of explosives aboard a ship like this cutter. Indeed, some of them had just been used, and Henry knew how powerful they were. He wondered if these were also watched. He put the question to the quartermaster.

"You can bet your life the explosives are watched. They are examined every day. You know there's a lot of guncotton among them, and if that stuff deteriorates, it's likely to make trouble."

"But how can they tell if it does deteriorate?"

"Oh, that's easy. There's litmus paper packed in each jar of the stuff. That will change color if the guncotton begins to go bad. Haven't you noticed that heavy, peculiar-shaped flash-light in the captain's cabin? That's the light they use in examining the explosives in the magazine."

"I should think it wouldn't be safe to store explosives so near those hot furnaces."

"It wouldn't be. The magazine is in the very

stern of the ship, right under the captain's cabin. You eat and sleep right over the explosives."

Henry could almost feel his hair rise on end. "Jumping Jupiter!" he exclaimed. "I do?"

The quartermaster laughed. "If the things in the magazine ever let go," he said, "I guess the folks in the cabin wouldn't be much worse off than the rest of us. The explosives there would tear this old boat all to pieces." After what Henry had seen so lately, he could believe it.

The two continued their tour of investigation. Henry saw the little office of the chief engineer, and spoke to Mr. Farley, who was at work therein. He saw the cook's galley, with its enormous range, and the place for stores, where food is kept. He saw, too, the compartments farther forward where paints were stored. It amazed him to find what great quantities of paints and oils and varnishes were needed for such a small ship. And Henry remembered, too, that at the time he first came aboard sailors were working on slings over the side, scrubbing the hull with swabs. No wonder she always looked so spick and span. It would have been a good thing, Henry thought, if the *Viking* had some of these paints, and her crew could touch up and clean her sides.

Before the two came up on deck, the quartermaster also showed Henry the place forward

where ropes, chains, cables, anchors, and similar gear were kept. Such hawsers Henry had never seen before.

"How big are they, anyway?" he asked.

"Those are twelve-inch hawsers," said the quartermaster. "The captain thinks there's nothing like a twelve-inch hawser for towing disabled ships, unless it's those heavy wire cables. You just can't break them. It's very difficult to get them aboard of another ship in a heavy sea, though. They haven't the buoyancy of manila hawsers."

"I see," said Henry. "But why do you call those manila hawsers twelve-inch hawsers? They look to me only about four inches in diameter. Maybe they are a bit more. But they aren't anything like twelve inches."

"Oh, it's the circumference and not the diameter of a hawser we reckon by. You are right in thinking that hawser is nearly four inches in diameter. It's also about twelve inches in circumference."

"To be sure," said Henry. "The circumference of a circle is always a little more than three times the diameter."

As they made their way back from the bow, where the hawsers were stored, the quartermaster pointed out to Henry the hammock-hooks overhead, and showed him some of the hammocks

rolled and stowed away. Already one or two men were asleep in theirs, swinging gently with the motion of the ship.

"How in the mischief did they ever get up there?" asked Henry.

"Pulled themselves up with their arms," smiled the quartermaster. "If ever you become a sailor, don't let them kid you into looking for the hammock-ladder. That's a favorite trick played on apprentice seamen. Sometimes a kid keeps hunting for a hammock-ladder for an hour or more."

"Thanks for putting me wise," said Henry. "I hope to go to sea some day, and I reckon I'll be the worst greenhorn that ever was."

They started to go on deck. "There's one thing I don't understand," said Henry. "Why are those men going to bed so early? Why, it's only a little while after supper."

"They have to do duty in the graveyard watch."

"The graveyard watch? What is that, anyway?"

"Don't you know about the watches on shipboard?"

"No."

"Then I'll tell you. You can see for yourself that men must be on duty constantly in all parts of the ship. So the day is divided into little

stretches that we call watches. From noon to four o'clock is the afternoon watch; four to six P. M. is the first day watch, and six to eight is the second day watch. The evening watch is from eight to twelve midnight. That's a favorite watch, as it means very little loss of sleep. The hard watch is from midnight to four A. M. That is the mid-watch, but we call it the graveyard watch. The watch from four to eight A. M. is the morning watch, and sometimes it is also called the navigator's watch. That isn't a bad watch, either. The other watch is from eight o'clock to noon, and is called the eight-to-twelve watch."

"Gee!" exclaimed Henry. "There certainly is a lot to learn about a boat, isn't there?"

"Right you are," said the quartermaster. "I suppose nobody ever learns all there is to know about sailing a ship."

By this time the two friends had reached the deck. At first Henry could see nothing in the thick darkness. Then, as he became accustomed to the night, he could make out all the features that had now become so familiar to him. Also, he saw some things that were not familiar to him. Little dark objects were moving about on the deck. At first Henry was not sure that he saw aright, but when he was certain that something really was moving, he said to his companion, "What is it that we see on the deck?"

"Birds," said the quartermaster. "Wait until I get a flash-light. We'll gather them up and take them to the captain. He's mighty fond of them."

He disappeared in the darkness and presently returned with his flash-light. Together the two searched the deck from bow to stern. Many little birds lay cold and stiff. They had evidently flown into something and killed themselves. Regretfully, the searchers threw their bodies into the sea. The living birds seemed to be unharmed, and suffered themselves to be picked up without protest. Seven were found, and, carrying these, the two descended to the captain's cabin and knocked at the door.

"Well, well," said the commander, as they entered. "Some more pets for me, eh? Thank you, Quartermaster."

The captain placed the little birds in the deep embrasures of the air-ports. Then he got saucers of water and some crumbs for them, but they would not eat.

"Utterly exhausted, I suppose," said the captain. "It's strange that such tiny creatures will venture so far away from land."

Henry returned to the deck with the quartermaster. He spent a few minutes in the wireless shack, then went on the bridge. But he had been up a long time and on the go every minute of the

day. Soon he was nodding. Presently he said good-night to the men on watch, and in a few moments was sound asleep in his bunk, while the ship stood steadily on her course toward Boston Light.

CHAPTER IX

THE CITY OF PAUL REVERE

AS usual, Henry found that the captain was up and about when he himself awoke. As he hustled into his clothes he felt ashamed to seem to be such a laggard. He found, however, that he wasn't so late as he had thought. In fact, it was still early, but the captain was such a tireless worker that one would indeed have had to get up early to be ahead of him. As usual, he was at his desk. He rose as Henry entered the cabin. In his hand was a red-bordered Coast Guard radio telegraph blank.

"Good-morning," said the captain. "How are you this morning?"

"Just the very best," said Henry. "I hope that I am not too late. I wanted to be up before we reached the harbor. Are we anywhere near Boston?"

"You're just in time. We're off Boston Light now. I am just going to send this message to the Commandant of the Navy Yard."

The commander reached for his call-bell, but Henry held out his hand. "Let me take it," he offered.

The captain handed him the message. Henry folded the sheet, writing innermost. The commander smiled approval. "You may read it," he said.

Henry opened the blank. It was addressed to the Commandant of the Boston Navy Yard and read: "Request permission to land at Navy Yard to obtain supplies from the *Oneida.* C. Hardwick, Commander, *Iroquois.*"

"Do you have to get permission to enter the Navy Yard?" exclaimed Henry.

"Yes, indeed, whether you come by land or by sea."

Henry carried the message to the radio shack, and Mr. Sharp got it off at once. Then he went to the bridge and bade the men on watch good-morning, but he had little inclination for talk. The wonderful scene that presented itself ahead fascinated him.

Already they had passed Boston Light, and the *Iroquois* was heading directly for a low-lying island that lay in the water like a huge, gray-brown button. It was George's Island, and the queer-looking, mound-like eminence on it was Fort Warren. Henry learned that a moment later when he stepped into the chart-room and studied the map. He wanted to know exactly what he was seeing.

Close beside George's Island lay Lovell's

Island, a big, hulking, rocky bit of land that reached some little elevation. There was also a third island, Gallup Island. And these three, like nuts between the extended jaws of a pair of pincers, lay between the long, tapering ends of the mainland that thrust out into the sea for miles. Behind these pincers was a great bay, practically land-locked, and filled with islands. Its coast line was cut and gashed with points and inlets. Everywhere the combers were crashing on the beaches and shining white in the morning sun. And on these islands and points, and along the shore, stood innumerable cottages, which Henry judged must be summer residences.

As the *Iroquois* approached George's Island the ship was headed northwest one-half north. Now she steamed between Gallup and Lovell's Islands, and Henry examined with interest the quarantine station on the former. Past Deer Island they went, with its huge and gloomy-looking prison and great stone walls, and past Long Island and Spectacle Island, which got its name because it is shaped not unlike a huge pair of nose-glasses. And, turning as the channel twisted, the *Iroquois* worked her way into the ever-narrowing mouth of the harbor, with the captain now on the bridge, conning the ship through the tortuous passage. Thompson's

Island was passed, and Governor's Island, with Fort Winthrop, and now the narrow harbor was close at hand. Meantime the radio man had handed to the captain the answer to the latter's wireless message, directing him where to dock the *Iroquois*.

How interesting it was to Henry. To be sure, the scene lacked the picturesqueness of the New York Harbor, with its unique sky line and its Liberty Statue, yet it was wonderfully fascinating. High before them towered two shafts. One was almost exactly like the Washington Monument, which was entirely familiar to Henry even though he had never seen it. He rightly guessed that this must be Bunker Hill Monument, and he was glad that it was so near at hand. If he had opportunity, he meant to visit it. The other tower was just as evidently a building. It reminded Henry of the Metropolitan Tower in New York. The captain told him it was the Boston Custom House. The remainder of the city looked much like any other city. It was a mass of buildings, some big and some little, crowded together so that one could hardly be distinguished from another. In the docks lay vessels—goodly steamships and some many-masted schooners; and of course there were tugs and smaller craft. But the harbor life was quiet indeed compared with the bustle in the waters of

New York Bay. Nevertheless, it interested Henry deeply.

When the *Iroquois* at last lay snug in her dock in the Boston Navy Yard, Henry was almost spellbound. Never had he dreamed of seeing such a collection of vessels. Immediately across the pier from the *Iroquois* he saw a ship standing high in air, with her keel not only out of water, but almost at the level of the pier itself. Henry had never seen anything like this before, and his astonishment was hardly lessened when the captain told him that this was the marine railway on which ships were hauled out of water, and that the vessel on the railway was the Coast Guard cutter, *Oneida.* Her bottom was being scraped and painted, and she was getting some new rivets in her plates.

But if Henry was astonished to see a ship high up in the air, he was hardly less amazed to see another far down in the bowels of the earth, for on the other side of the *Iroquois,* at no great distance, a little lean, gray boat, was propped upright in the centre of a great hole that had been dug in the earth. She was deep down. Henry judged her keel must be a full thirty feet below the level of the surrounding earth. There was no water in the hole, and workmen were busy all about the little ship. As Henry soon discovered, this boat was in one of the Navy Yard dry docks.

He asked permission to look around, and the captain told him to go where he liked, but cautioned him not to take too great liberties.

Henry stepped ashore and ran over to the dry dock. He was more amazed than ever when he stood on the edge of it and looked down into it. It was, indeed, a great hole in the ground—an excavation hundreds of feet long and many yards wide. The sides were made of massive masonry, built up like steps, of huge blocks of granite. The dry dock was as deep as a tall house is high. In shape it was long, and would have been rectangular had its inner end been square instead of rounding. The other end, the square end, was what interested Henry, for when he came to examine it, he found it was nothing but a water-gate. It was a great steel structure, tremendously braced to make it strong, though at first glimpse it seemed much like the rest of the wall. This steel end or gate held the water out, for, of course, the dry dock opened into the harbor. It was so made that water could pour through open ports, filling the dock. Then the gate itself could be swung outward to one side, so that a ship could enter the dock, and when the gate was once more swung in place and the openings closed, pumps were put at work and all the water pumped out, leaving the ship propped up securely on keel blocks. Thus the workmen

could work at every part of the ship at the same time.

And they were indeed working at every part of this ship at once, for Henry now saw with even greater astonishment that the ship had been cut in two. The bow, which had been sheared off in a collision, and the after part of the boat were blocked in position, and these two parts were now being reunited. The vessel was a torpedo boat and had been in collision with a larger craft.

Henry was glad to see her, because he had never before seen a torpedo boat close at hand. She was long, low, rakish, and built much like a knife. Indeed, she had to be long and thin to attain the tremendous speed at which these boats are sometimes driven, for they travel as fast as express trains.

When he had satisfied his curiosity, Henry made a more general survey of his surroundings. He noticed the great coal bunkers, where naval vessels coaled. Little cars were traveling up an inclined railway, like a procession of elephants, and dropping loads of coal in the elevated bunkers, whence it could be shot downward to ships lying alongside. He saw great numbers of huge anchors and cables and chains, and other ship's gear, lying on a pier. And there were several huge barges floating in a dock, each containing as many naval launches as its deck space would

hold. Still other barges were laden with lumber and iron and similar stores. There were great cranes afloat and ashore.

Near by, too, an eagle boat lay in a dock. Henry was glad to see it. He had read about these submarine chasers during the war, but had never seen one close at hand. This vessel was something more than one hundred feet long, very narrow, low-lying, with some guns mounted on the low deck, and her superstructure amidships. Her wireless antennæ and her guns both held Henry's attention. The longer he looked at her, the more he wondered that she could withstand the sea. He knew something about waves now, and he was sure that in a rough sea they would sweep across the decks of this little craft again and again. At once he gained a higher opinion of the hardy men who sailed these craft, in fair weather and foul, and guarded the shipping lanes during the war.

When Henry had seen all he could see from the immediate neighborhood of the *Iroquois'* pier, he started to walk along the water-front. Almost the first thing he came upon was a submarine. He was immensely pleased to see one of these ships so close at hand. The tide was low, and the little craft sat in her dock as snug as a duck in the reeds. Like the torpedo boat and the eagle boat, the submarine was painted gray.

She was some hundreds of feet long, and made Henry think of a huge log afloat. Her rounded sides rose only a few feet above the water. Amidships was the conning tower, with its periscope. There were short masts for wireless antennæ. The very top of the hull was flattened, so that the crew could walk on it. Along the sides of this narrow deck were short uprights with eyelets at their tops, which a life-line pierced, and this line was the only rail the sailors had to keep them from falling into the sea. Perhaps it was the big guns fastened to the deck that most interested Henry. There was no way to protect them from the sea, and when the ship was running submerged, he saw that these guns would stand right up in the water. The horizontal rudders, by means of which the ship was enabled to dive under the waves, were also interesting. They were pivoted, so that, when not in use, they folded back into depressions in the hull of the ship, just as a fish's fins are sometimes folded close against its body.

When Henry walked to the next piers he was thrilled, indeed, for there lay two of our great fighting ships, the battleships *Utah* and *Delaware*. What ponderous, grim, menacing hulks they were. How high their decks were. How their superstructures towered aloft. How threatening their turreted guns appeared. And

what curious structures the basketwork masts were. It seemed to Henry as though each of these ships must contain a whole village of people, for he could see sailors by the hundreds on board. Some were washing the ships' sides, some were at work on the decks, some were up in the superstructures. Wherever he looked, he seemed to see men. And it was just like the dismissal of church or school when a party of bluejackets came ashore on leave. They poured down the gangplanks in masses, and went jauntily off toward the gate for their holiday.

There were other ships, too. One was evidently a new vessel. It was fiery red in its first coat of paint, and had peculiar lines, different from those of any ship Henry had yet seen. The superstructure appeared to be but one story high and to extend nearly the length of the vessel. It was perfectly level, with no railings about it. Henry was so astonished at the unusual appearance of the craft that he stepped up to a group of workmen and asked what the ship was.

"That's the *Whitney,*" said one of the men. "She was just launched a few days ago. She's a submarine tender."

"What a queer top she has," remarked Henry.

"Yes," agreed the workmen. "She was de-

signed for an aëroplane carrier, but they changed her into a submarine tender."

"Oh, I see," responded Henry. "I suppose that explains the long, flat top of her superstructure. That's where the aëroplanes were to alight at sea."

Henry thanked his informant and hurried on. He saw the great collier *Neptune,* and an oil carrier, the *Arethusa,* and the scout cruiser *Chester.* The latter two lay side by side, and it made Henry actually laugh to see the difference in their build. The swift scout cruiser was lean and high, the oil carrier lower and fat, with sides that actually bulged. The two ships were as different in appearance as a lean greyhound and a fat collie.

But of all the craft in the Navy Yard none so fascinated Henry as the old battleship *Constitution.* For there, close beside these modern ships of war, lay old *Ironsides,* the frigate of forty battles, in which she never knew defeat, the oldest and most famous vessel in the United States Navy. There she lay, almost as old as the nation itself, for she was built in 1797, and she was yet sound.

Thrilled by the sight, Henry stood on the pier beside her and examined her every rope and spar. Her hull was one of those blocky, bulky, upstanding structures typical of the long ago.

High above the water line, at intervals of a few feet, open ports reached from stem to stern, and from each open port projected the grim and threatening muzzle of a cannon. Her three masts were the most enormous spars Henry had ever seen. Scores of feet they towered aloft, for mast stood upon mast, the topmast being surmounted with still a third mast, until there was a most bewildering array of shrouds and rigging. And such rigging! Often enough had Henry seen the rigging of modern sailing ships. He knew well enough what these rope ladders that lead to the crosstrees look like in modern boats. But here, instead of the customary three stays on a side, were stays after stays, with their crosspieces, so that many men at a time could swarm up and down the rigging, and out on those enormous spars to furl the sails, for the ship was a square rigger. And at the crosstrees were great platforms where a dozen men could stand. Henry saw right away the reason for these platforms. Sailors could stand here after furling the sails. Sharpshooters could be stationed here, where they could see over the smoke cloud, to pick off officers and men on opposing vessels, for in those days vessels fought side by side, and even sought to grapple each other so that crews could fight hand to hand. The old ship's bowsprit, too, was of unbelievable dimensions, extending

yards and yards beyond the bow and reaching an incredible elevation.

Henry saw that visitors were permitted on board, and he walked up the gangplank. The deck of the *Constitution* was not unlike the deck of any other sailing ship. But the gun deck, below, was fascinating. It was a great bare section of the ship, whence projected the gun muzzles, and in it was nothing but an ancient stove amidships, for heating cannon balls red hot, and the rows of cannon on either side. Henry was amazed at the number of these guns. A placard told him that the ship originally carried forty-four. These were bulky, chunky affairs, mounted on heavy wooden carriages, with small wheels beneath, and great hawsers and tackles holding them in place. There were no breechloaders in the days when the *Constitution* fought. Then each gun had to be run through its port and swabbed out and loaded through the muzzle, and then it was run out again with the tackle, blocked in place, and fired.

Henry could have spent hours examining the old craft, but he did not know how long the *Iroquois* would lie in the Navy Yard, and he wanted to see all he could while he was in Boston. So he reluctantly took a last look at this famous old frigate, and made his way rapidly back to the *Iroquois*. On the way he took note of the

huge shops, some of them covering as much ground as a city block, the great traveling cranes, the shifting engines, and all the other vast equipment in the Navy Yard. It was like a city in itself, and it made Henry proud to think that he was an American.

Captain Hardwick informed Henry that there was some delay about the stores, and that it would require several hours at least to transship them. The *Iroquois* could not leave before late afternoon, and might not get away before the next day. He secured a pass for Henry and told him to look at Boston to his heart's content, but to be sure not to get lost.

"I've heard that it is hard to get around in Boston," agreed Henry.

"You'll get lost, sure," laughed the captain. "Everybody does."

"Where could I get a map?" inquired Henry. "I wouldn't get lost with a map."

"You may have mine," said the commander. And he got for Henry a fine little book of maps that folded between stiff covers. One of these maps was of Boston.

On his way to the gate Henry noticed numerous buildings, like the commissary stores. And there was a long row of houses, evidently for the use of officers attached to the Navy Yard, with the commandant's house standing conspicuously

near by. The row of houses looked out on a small park, with a band stand in it, and Henry thought it must be very delightful to be in the park on summer evenings and listen to the marine bands.

Once outside the gate, Henry found it was no trick at all to reach Bunker Hill Monument. That was just around the corner, as it were, up on a bit of high ground. A few minutes' walk brought Henry to it. He found that the monument stood at the very apex of a considerable mound, that was the size of a city block or two, and was laid out very pleasingly with lawns and walks. Attractive residences faced the monument on all four sides of the square. Henry found a policeman patrolling the grounds, and the man seemed very willing to answer questions. He showed Henry where the American fortifications lay, and where the British troops swarmed the hill. A stone memorial marked one corner of the redoubt. The monument itself, which was something more than two hundred feet high, was exactly like the Washington Monument, Henry learned, for the guide told him that the Washington Monument had been modeled after it.

With interest Henry saw where the British troops had formed at the foot of Breed's Hill and marched up to the redoubt, only to be hurled back twice by the unbearably deadly fire of the American marksmen. To be sure, the land was

now covered with solid blocks of buildings, but Henry tried to picture to himself the field as it was in 1775, with long, waving grass and a straggling stone wall behind which some of the American troops took position.

His heart was filled with emotion as he left this spot, sacred to liberty, and made his way down the hill again. His map showed him that he was not far from Faneuil Hall. He wanted to see that old building almost as much as he had wanted to see Bunker Hill. He found his way to it, and was much interested in the curious old structure.

The great market house filled an entire small block, for, from its birth, Faneuil Hall had been primarily a market. Henry walked completely around it. Dozens of market dealers in dozens of stalls offered all sorts of green foodstuffs for sale. Their wares were temptingly displayed along the sidewalk. Celery, onions, apples, potatoes, and all the various vegetables and green foods that we commonly eat were here to be found. When he entered the market house itself, he found it divided into two parts, through each of which went a long, central aisle, with stalls on each side. Meats and poultry were to be had here. It made Henry hungry to see the countless cuts of beef and veal and mutton.

A wide stairway led from the sidewalk at one

end of the building up to the second floor. Henry entered and went up the steep steps. He soon found himself in a roomy and convenient auditorium, encircled by an elevated gallery. The place was interesting, not only because of its historic associations, but also because of its beautiful old woodwork and mouldings and decorations.

The third floor Henry found to be the quarters of one of the Boston troops. The huge floor was cleared, so that it could be used for drilling or for dancing. Around the walls were hung the likenesses of all the men who had been captains in this organization, and there were pictures of the famous battles in which these troops had fought.

There was so much to see that Henry found he could never get over it all, so he decided that he would see the famous old North Church, in the belfry of which the lanterns were hung to notify Paul Revere which way the British would journey to Lexington on that famous night in '75. Near by was the very house in which Paul Revere lived. So Henry, following his map closely, hastened through a most bewildering labyrinth of streets, and soon found himself in a region that was, to all appearances, a part of Italy. The narrow, crooked streets were filled with Italian children. In doorways sat shawled

Italian women gossiping and sewing. Italian shops lined the way. It was interesting and novel to Henry. He had never before been in an Italian section of an American city. But he had little time to look about. He hurried on until he came to a little house so unlike any other building in the block that he did not need his guidebook to tell him it was the home of Paul Revere. It was a curious brown house, with tiny diamond-shaped panes in the little leaded windows. The roof was low, and the second story seemed to be hardly more than half a story in height. Henry saw that he could gain admission by the payment of a small fee, but he thought he scarcely had time to examine the house.

So he went on around a corner or two, and presently he found himself standing before the old North Church. It was still a sightly structure, with its shapely spire rising above its plain brick walls. An iron fence rose in front of it. On the wall was a bronze tablet calling attention to the fact that here were hung the lanterns that guided Paul Revere.

When Henry had examined the old church from every possible angle, he turned away and headed for the *Iroquois*. At least, he turned away from the church. Such curious rambling streets he had never seen. He knew well enough that he would have been hopelessly lost without

the captain's map. And even with that in his hand he was sometimes bothered to know which way to go, so poorly were the streets marked. Many were the new and interesting things he saw on his way back to the Navy Yard. "I'm surely coming back to Boston again some time," he thought. "It is a wonderfully interesting place." And then the idea occurred to him that if he succeeded in becoming a Coast Guard man, it might be possible for him to visit not only Boston, but also many other American cities. He was more determined than ever that he would persist in his effort until he won the place he wanted. Then, too, he could be of some real service to this commander he loved, for Henry had become very loyal to Captain Hardwick. The time when he could be of service to the commander of the *Iroquois* was a great deal nearer than Henry dreamed. Perhaps it was as well he did not realize that, or understand the trying experiences that lay so close before him.

CHAPTER X

A SHIP IN DISTRESS

HAD Henry but known it, there was no immediate necessity for his return to the *Iroquois*. Indeed, the Coast Guard cutter not only was unable to sail that day, but she did not cast off her hawsers until afternoon the day following. Although Henry thus had an unexpected half day in Boston, he saw no more of the city than he had seen on the preceding day, for when he awoke rain was pouring down, a vicious east wind was blowing, and the elements were as nasty as they well could be.

Even a complete suit of rubber would hardly have kept one dry very long in the slashing, blustering blasts that came howling through the Navy Yard. The rain drove in horizontal sheets. It whipped around corners and under doorways and awnings. It roared across open decks. It beat against the air-ports. With ever-increasing force the gusts came tearing in from the sea. Trees bent far over and groaned before their onslaught. Flags whipped themselves to ribbons. Halyards beat a very devil's tattoo against their

masts, and on the *Iroquois* the cordage fairly shrieked in wild, wailing notes that made Henry almost shudder.

He was glad enough that the *Iroquois* had been unable to get away. Never had the captain's cabin seemed half so comfortable and attractive. He told himself that he would be glad enough to spend the time there, reading some of the interesting books from the captain's bookshelf, while waiting for the storm to subside.

Yet the movement of stores went forward without interruption. Sailors, cased from head to foot in sou'westers, oilskins, and rubber boots, worked without ceasing in the downpour to finish the transshipment. Henry could hear them clumping about the deck in their clumsy footgear. On the pier trucks rattled and banged. Boxes were wheeled aboard and dumped on the deck. Men swore and slipped in the wet. Machinery rattled.

While Henry and his host were eating their luncheon, the noises suddenly ceased. There were a few shouted orders, indistinguishable in the roar of the storm, then some banging noises as hatches were closed and battened down, and other openings made fast. Soon all was quiet. When the luncheon was ended, Henry went up the companionway and peeped out. Things had been made tight. Awnings had been removed. Every-

thing was lashed fast. The decks were bare. The *Iroquois* was stripped for action.

Henry could hardly believe that Captain Hardwick would leave port in such a storm. He knew that storm warnings must be showing all along the New England coast, and perhaps the entire Atlantic seaboard, but before he could return to the cabin and ask the captain if he intended to put to sea, he saw the chief electrician running aft along the slippery deck. Henry threw open the door for him, and the radio man dodged in out of the blinding rain. He had a message for the captain.

Henry descended to the cabin with the electrician. Captain Hardwick took the telegraph blank from Mr. Sharp and studied it a moment.

"No orders?" he asked.

"Not yet," said the electrician.

The captain sat down at his desk, drew a red-bordered telegraph blank from a pigeonhole, and wrote. "Send that," he directed.

The radio man struggled out into the storm. The captain rose and touched his call-bell.

"Rollin," he said, when his attendant appeared, "ask Mr. Farley to come to me at once."

The commander picked up the telegram and handed it to Henry. "You'll have a chance to see something to-day, Henry," he said.

Henry looked at the message in his hands. It

was a cry of distress, an SOS message the radio man had picked out of the air:

> "Steamer *Capitol City* ashore east coast Cape Cod forty-two north, seventy west. Pounding badly. Need immediate assistance."

The chief engineer entered the cabin. "Start your engines at once, Mr. Farley. We just caught a distress call. Steamer ashore on the east coast of Cape Cod. See that everything is ready for a hard run."

"All right, sir," and the chief engineer hurried forward.

Soon the ship began to vibrate. The rumbling noise of the machinery arose. Yet the *Iroquois* lay quiet in her dock.

"He's warming her up," thought Henry. "It's a good thing, too, for this is going to be some struggle. I'll bet the waves are like mountains."

The captain rang his call-bell. "Send Lieutenant Hill to me," he said.

The lieutenant came briskly into the cabin. The two officers conferred a moment. Henry stepped over to the wardroom. Not even the doctor was there. Cards and books lay on the table in disorder, as they had been dropped at news of the wireless. Everybody was at his post,

preparing. Henry returned to the cabin. The lieutenant was gone. The commander was pulling on his oilskins.

"Where can I get a slicker?" Henry inquired.

"Ask Rollin. He will get you one."

The captain pulled on his sou'wester, tied the strings under his chin, and mounted to the deck. Henry rang for Rollin and stated his wish. The attendant brought boots, hat, and slicker. Henry pulled on a sweater, buttoned his coat up tight, and pulled on the waterproofs.

The gust of wind that struck him as he came out of the companionway sent him reeling back against that structure. He could hardly catch his breath. The driving sheets of rain blinded him. He fought his way forward, and entered the radio shack. The chief electrician was copying down a message. It was an order for the *Iroquois* to go to the rescue of the *Capitol City*. But Henry knew that it was not needed. Already the *Iroquois* was prepared to get under way.

Henry took the message to the bridge and handed it to the commander. "Tell Sparks to wire that we are leaving Boston to help the *Capitol City*," shouted the captain.

Henry carried the message to Mr. Sharp and watched him send it. Then he went back to the bridge. The rain beat on him as irresistibly as

ever, but the weather-cloth offered surprising protection from the wind. A sailor slipped the hawsers over the posts on the pier. Other sailors drew in the hawsers and stowed them away. The captain pressed his signal-bell, and the *Iroquois* began to move astern. She backed out into the stream and then turned and headed for the sea, into the teeth of the driving storm.

The beating rain obscured the view. Fog made the shores almost indistinguishable, for in from the sea, blown on the breath of the icy blasts, came racing great clouds of murky white vapor that screened all they touched. The captain looked grim and inscrutable. His jaw was set hard. He stood by the wheel-house, conning the ship. At half speed the *Iroquois* slowly nosed her way down the channel. Wiped from view was the beautiful scene that had so delighted Henry a few short hours before. Nothing could be seen but occasional glimpses of shore, the tumultuous, muddy water, and the driving curtains of fog.

One by one the captain made the proper turns in the tortuous channel. As the *Iroquois* stood farther and farther out toward the sea, the waters became ever more tumultuous, the winds roared more fiercely, and the fog shut in ever denser. Fathom by fathom the ship crept past one after another of the island defenses along the way, that

served as breakwaters to the sea and broke the sweep of the winds. When at last the little ship turned eastward at George's Island, and faced the storm with the last vestige of protection gone, she trembled and shook in the grasp of the roaring blasts.

A smother of foam was the sea. Waves rose and broke in incredible confusion. The waters were churned as by a giant hand. The racing winds whipped the crests from the combers and flung them forward in sheets of blinding spray. Fog drove onward in clouds, now completely hiding the sea, now lifting momentarily, to expose the wild waste of tossing waters. The fury of the storm was indescribable.

Mountain high indeed seemed the waves. Before the bow of the *Iroquois* they rose up, up, up, as high as the men on the bridge, then rushed savagely at the little boat, seemingly bent on her destruction. Down they crashed, and the nose of the cutter was buried in a smother of foaming water. Sometimes the crests swept completely over the bow, pouring over the forward deck in great floods that raced aft and went foaming out of the scuppers. Now Henry saw why the decks had been cleared of all movable objects. Indeed, as he watched the smashing combers crash over the bow, he feared that the big guns themselves would be torn from their foundations on the iron

deck-plates and hurled aft against the wheel-house. With blanched face he stood on the bridge, desperately gripping the rail, and peering with fascinated gaze at the snarling, hungry seas.

Meantime the captain had sent a reassuring message to the *Capitol City,* telling her the *Iroquois* was on her way to assist her. And when the ship was fairly in the sea, past all chance of harm by rock or shoal, the captain left the lieutenant in charge of the bridge and went himself to the chart-room to plan his coming movements. With him went Henry. He had seen enough of the sea for a time. Some of the fear that first gripped his soul had gone. He knew that the *Iroquois* was safe so long as she held her course, but he wanted to shut out for a time the sight of those terrifying billows; so he staggered to the chart-room, and stepped inside, glad of a relief from the terrible tension that had held him.

The captain was calmly poring over his charts and guide-books. "Forty-two north, seventy west," he muttered, sweeping his glance over an outstretched map. He placed his pencil on the indicated spot. "She's on the shoals almost dead east of Truro," he said to Henry.

Then he turned to a Coast Guard directory and leafed it over. "Thank God!" he cried. "There's a Coast Guard land station near by.

It may be two or three miles distant, but they'll come with their outfit. They must have gotten the wireless flash just as we did. It's likely they're on their way now. What a fight that will be—those miles across the sand with their heavy boats in this wind. They'll do it, though. But maybe we can get to the *Capitol City* before she breaks up. I wish we dared go faster."

He stepped out on the bridge and conferred with the lieutenant. "Do you think that we dare drive her any faster?" he shouted in the latter's ear.

The lieutenant shook his head dubiously. "Well, we'll try it," said the commander.

And he stepped into the wheel-house and signaled for more speed. The response was terrifying. Under increased power the *Iroquois* drove ahead, bit by bit gaining greater momentum. Savagely she charged into the seas. Wildly the waves leaped to meet her. The impact grew ever more terrific. Soon a huge mountain of water came roaring down on the little cutter. Up it rose and up and up, while the cutter charged to meet it, and as it broke and crashed forward, the cutter dived completely under it. The shock was terrific. Tons of water crashed down on the deck, then went racing aft against the superstructure. The *Iroquois* seemed to stop in her tracks. She trembled from stem

to stern. She shook and quivered. The great wave went roaring aft, twisting and tearing at the ship. A section of the rail carried away, and went pounding astern. The tumult was terrifying. Henry, in the chart-room, thought the ship was breaking to pieces. With blanched face and set teeth he clung to the side of the room, not knowing what to do. He was reassured when the captain calmly stepped inside the wheel-house and signaled for the engineer to lessen speed.

Hour after hour they wallowed through the storm. Unflinching, undaunted, in complete mastery of ship and crew, the captain stood on the bridge, with his right-hand man. Mile by mile, league after league, he fought his way eastward. The rain ceased, but the winds blew on, lashing the seas to fiercer and greater fury. The sky was totally obscured. Gradually the fog lifted, but not for long was the increased vision. Darkness came apace, and into that roaring darkness the *Iroquois* drove with all the power she dared to use.

With anxious eyes the captain watched the logbook. At times he telephoned to the chief engineer. Again and again he stepped to the wheel-house and looked at the compass. Anon he consulted with the lieutenant. He must know where he was, in order to get safely round the long arm of Cape Cod. Nor did he dare stand

too close to shore in his run along the eastward coast of the Cape, lest the storm put the *Iroquois* also on the shoals. Dead reckoning alone would tell him when to turn, and carefully the commander considered every feature that might indicate his position.

Darkness had long since shut in, and the *Iroquois* was wallowing through a night as black as pitch before the captain altered his course and headed south along the outer edge of the Cape. Gradually the course of the vessel was shifted. To Henry the change was terrifying. No longer was the *Iroquois* breasting the storm. The waves took her abeam. From side to side she rolled until Henry's heart stood still with fear. Over and over and over she dipped until he was certain she would turn upside down. Then slowly she righted and swung in the opposite direction. And once, when she rolled at an angle of forty degrees, Henry almost gasped aloud. It seemed like eternity while the ship lay poised almost on her beam's ends, apparently uncertain whether to roll on over or come back on her keel. Then she slowly righted.

Meantime the chief electrician had been in touch with the stranded ship. From her signals he knew that she was not far away. They came crackling out of the air sharp and clear. A distant glow showed that the guardsmen from

the land were already at the scene. At last the *Capitol City* wired that she could see the lights of the *Iroquois*.

"Make a flare," flashed back the *Iroquois'* wireless man.

And presently, almost dead to leeward of the *Iroquois,* the darkness was torn by a flash, and a flaming rocket went streaking up through the night. Other rockets followed. Then a flaring light arose, and through their glasses the men on the bridge of the *Iroquois* could see the stricken ship, lying in a smother of foam on the outer edge of the breakers. She was too far from shore for the land crew to shoot a line to her, and no small boat could live in such a sea. If the crew of the *Capitol City* were to be saved, the little cutter alone could save them.

Cautiously the *Iroquois* was worked in toward the shoals. Then slowly she was turned, the captain gave the word, and one of the anchors was let go. Once more the cutter was heading again into the seas, and now, little by little, her anchor-chain was paid out, while seamen with hand-lines took soundings, calling up to the bridge the depth they found. Fathom after fathom the giant anchor-chain was paid out. Fathom after fathom the *Iroquois* rode backward toward the seething breakers.

Fascinated, Henry watched the attempt to get

within reach of the unfortunate steamer. Gradually the *Iroquois* drew near to the smother of white water. The sea was shoaling fast and the tide was running out, but the captain kept on in the hope that he could get near enough to shoot a line aboard the *Capitol City*. His shells, and the shot line, loosely wound in the faking box so that it would run out freely, were ready for instant use. All that was necessary was to remove the canvas cover from the little gun on the after rail, insert the charge, and shoot. But the *Iroquois* never came within shooting distance. Too rapidly the water shoaled, and at last, reluctantly, the commander gave the word and the anchor-chain was held taut. The *Iroquois* was rolling, head to the sea, at the very edge of the breakers, but she was too far away from the *Capitol City* to put a shot across her.

"Tell them we'll float a line down to them, and for them to be on the lookout for it," the captain ordered the wireless man.

The latter sat down at his key, but a moment later switched off. The *Capitol City's* wireless was failing. He shifted to the blinkers, and for the first time Henry had opportunity to see the lights on the yardarm flash and blink. From the *Capitol City* came answering winks from aloft.

"They're looking for our line," the wireless man informed the captain.

A Coast Guard Cutter Standing by a Stranded Ocean Liner

Meantime empty kegs had been prepared. A light line was made fast to one of them, and it was thrown into the sea. Rapidly it floated to leeward, and as fast as the sea carried it shoreward the line was paid out. The searchlight of the *Iroquois* was broken out and its beam kept on the floating keg. Slowly this bore down on the *Capitol City,* but it was too far to one side for that ship to get it. The line was hauled in, and again it was floated toward the helpless ship. This time a sailor hurled the keg far to one side of the *Iroquois,* in the hope that it might now come close enough to the stranded ship to be caught. But again the attempt failed. The ebb tide, with its cross current, carried it farther away from the *Capitol City* than it had been before.

"Lower the surfboat," ordered the commander, when he saw the attempt was useless. Then he called for volunteers. By the dozen the sailors leaped forward.

"Boatswain Johnson," said the captain, "I'm going to put you in charge. Pick your crew."

The boatswain selected eight sturdy sailors for oarsmen. A life belt was strapped round each. The boat was lowered to the rail, and the crew stepped carefully aboard. At a favorable moment the craft was launched. Quickly she shot away from the side of the *Iroquois,* and be-

fore another comber broke, she was at a safe distance from the cutter and heading straight into the breakers.

The ship's light was trained on her. On she went, now up, now down, breasting the roaring waves, shooting through the smother of foam, riding safely where it seemed impossible for a boat to live, under the skillful guidance of the experienced boatswain. Swiftly she drew toward the *Capitol City,* which no longer lay at right angles to the beach, but had worked a little to one side, making a lee where the water was calmer. Toward this the boatswain drove the surfboat. Into it the little craft shot safely, while a sigh of relief went up from the deck of the *Iroquois.*

Through powerful glasses, Henry watched breathlessly while the surfboat drew close to the protected side of the *Capitol City.* A line was thrown to the little boat, and a sailor in the bow caught it. Then the surfboat was drawn close beside the stranded steamer, and a sailor scrambled down from the rigging and dropped into it.

From seaward a giant comber was rushing toward the tiny craft. If it caught her, it would crush her against the side of the larger ship as an eggshell is crushed underfoot. On the *Iroquois* not a soul breathed. The onlookers

stood tense, waiting the outcome. But the boatswain had an eye for everything. He, too, saw the great comber approaching. Back from the steamer's side drew the little boat, and the wave passed harmlessly by. Again the surfboat drew up to the side of the *Capitol City,* and another man detached himself from the rigging and dropped into it. But just at that moment a wave, rising apparently from nowhere, swept over the windward side of the stranded steamer, poured irresistibly across her deck, and sent its tons of icy water crashing downward into the little surfboat lying by the leeward rail. The tiny craft was swept from sight.

"My God!" cried the captain. "They've capsized!"

CHAPTER XI

LOST IN THE SEA

FOR a moment the crew of the *Iroquois* stood as though petrified. In the brilliant beam of the searchlight they could see the dark forms of their comrades as they bobbed up above the smother of foam. Down from the bridge and the rigging of the *Capitol City,* where the members of her crew had taken refuge from the sweeping waves, these men now came leaping fearlessly. To rope and life-buoy they ran, and, seizing them, hurled them far out into the waves toward the struggling men from the *Iroquois.* But the strong cross-current that had borne the floating keg so far to one side of the stranded ship, now carried the struggling men rapidly away from the steamer and the floating buoys. Desperately the men fought to reach the *Capitol City,* but the rushing tide beat them back, sucked them farther and farther away from the ship, and dragged them out toward the deeper water.

Not long did the men on the *Iroquois* remain idly watching their comrades, helpless in the surf. One instant alone they stood as though paralyzed. Then, as the captain began to bark his

terse commands, they leaped to action. In an instant the anchor-chain was released, and as it paid out the *Iroquois* began to move. Driven by wind and wave, she bore farther into the breakers. A seaman with the lead sounded and roared out the depths. Rapidly the water shoaled, but the captain let the *Iroquois* drive on. He meant to save his men if it were humanly possible. Rapidly the tide was sweeping them outward. The wind was pushing the cutter inward. Every second brought the struggling men nearer to their comrades, who waited with ropes and buoys, at the rail of the *Iroquois*.

Of a sudden the *Iroquois* was jarred from stem to stern. Again and again, as she rolled in the waves, came that pounding, jarring sensation. She had struck bottom. She was on the shoals. The captain signaled for full speed ahead, and shouted an order to the men at the anchor-chain. The propeller began to revolve slowly, then faster, then at full speed. The engine on the forward deck began to heave in the anchor-chain. The *Iroquois* seemed to pause and gather herself for a leap. Almost imperceptibly at first, then faster, and then with a rush, she moved through the water. An oncoming comber, towering toward the skies, met her bow on, and again the little cutter plunged headlong under water. A warning cry went up. The men on deck grasped

rope and rail and clung with all their might. The great wave went sweeping aft like an avenging fury, but not a man was swept away. Instantly the captain signaled to lessen speed. The *Iroquois* forged ahead more slowly, the leadsman sounding continually and shouting the depth to the commander on the bridge. Soon the cutter rode at a safe depth. The engines were stopped, the anchor-chain was made fast, and once more the *Iroquois* rode safe at the edge of the breakers.

All the while the resistless tide was sweeping the struggling men in the breakers out toward the *Iroquois*. One by one they were now borne past the ship, struggling desperately to reach her side. With trembling hands eager comrades flung ropes and buoys. All fell short. One man alone came close, bravely fighting his way to the starboard side of the cutter. A sailor climbed over the rail and down a ladder, leaned down, and snatched his struggling comrade as the latter shot upward on the crest of a wave. At that instant the ship lurched violently to port, the sailor's grasp was broken, his comrade was torn from his grip, and the poor fellow was sucked away by a wave, and, struggling desperately, was borne out to sea. All about the *Iroquois* men were fighting with the waves. In desperation their comrades watched them.

To launch a boat seemed not humanly possible. No little craft could live in such a sea. But the captain called for volunteers, and as one man the crew sprang forward.

"Lower away the leeward lifeboat," roared the captain.

Eager hands unbent the gripes, the falls were loosened, and the lifeboat dropped level with the rail. Into her leaped the chosen crew, with the executive officer in command. Down went the boat. For a moment it rode the waves in safety, and pulled out toward the struggling men in the sea. It had almost reached the nearest when a swirling comber rose beside it, towered a second above it, and then came crashing down on it, burying men and boat under tons of yeasty water.

For a moment, boat and men were completely lost to sight. Far down beneath the swirling seas the ill-fated crew of the lifeboat had been thrust by the towering comber. The moving searchlight showed no human form among the savage seas. Then suddenly the sea was full of struggling men. Some fought their way to the overturned boats and clung to them. Those whose grips had loosened were seized by their comrades and dragged back to the pitiful security of a hold on a floating boat. Some could not gain even this slender assistance.

At this instant the tide turned. Far to seaward the men from that first ill-fated boat had now been swept, out into the blackness of the night, past the possibility of assistance. But the struggling crew of the other boat were now borne slowly shoreward. Now wave and wind combined to wash them toward the distant sands. It did not seem possible that they could safely pass through that seething caldron. With incredible fury the waves beat down upon them. Like chips in a mill race they were tossed helplessly this way and that. But every man of them wore a life belt, and despite the buffeting of the seas all remained afloat and alive. Bravely they continued to fight for their lives.

Two boats had been swamped. Two crews were battling for life in the waves, and one was irrevocably lost. But men still pressed forward and begged to be allowed to try again. No boat could live in such an awful sea, yet the men of the *Iroquois* pleaded for a chance, a last chance, to save their comrades. The captain ordered one more boat lowered. Like its predecessors, it lived but a few minutes in the awful sea.

Three boats had now been capsized, and three crews were struggling in the sea. Many were clinging to the overturned boats, while others had gained some of the buoys thrown to the crew of the first overturned boat. Numbers were swim-

ming unaided. The sea was full of boats and floating men. Impotent, heartsick, torn with anguish, the men remaining on the *Iroquois* stood watching the awful sight. They had done their best. They had done all that human beings could possibly do, but it was not enough. There was nothing else they could do but pray, and many an agonized seaman, rough as a barnacle, stood with tears streaming down his rugged face and prayed for his comrades struggling for their lives in that awful sea.

Perhaps those prayers were heard. With every minute the incoming tide ran stronger, washing the struggling men toward shore, where now were burning the welcome beacons of the crews from landward Coast Guard stations. Again and again they tried to launch their surf-boats, and as often were beaten back. Now they stood at the edge of the waves, waiting to assist their comrades from the ship.

Ceaselessly the searchlight of the *Iroquois* played upon the breakers, and on her bridge officers stood with glasses and watched the awful fight. Miraculously the struggling men drove steadily toward the shore. Soon they were in shallow water. They touched bottom. And now, fighting their way upward on the sand, they struggled through the breakers. Again and again inward-rushing waves beat them down, but

always they were flung forward, tossed landward, driven farther toward the sandy beach and safety. The flaming fires before them heartened them, encouraged them. New strength came to them, and singly, in pairs, and even in little groups, they battled their way onward. The strong helped the weak, and one or two were seen dragging comrades who were wholly helpless. Out into the breakers rushed the waiting guards from the shore. Strong arms were thrown around weak and fainting forms, and limp bodies were carried bodily through the waves. Again and again the sturdy guardsmen from the shore rushed back into the waves and aided more men ashore, while others toiled to resuscitate the few who had all but succumbed.

Around the fires now pressed the rescued seamen, increasing in number as man after man gained the sands, until they formed a great ring about the flames. Their numbers brought joy to the watchers on the *Iroquois*. Now the rescued men were seen to be leaving the fire and trooping off into the darkness.

The commander was talking to the quartermaster, who had been kept at his post during all the struggle. "We must be a little farther along the coast than I thought," said the captain. "They must be taking our men to a Coast Guard

station. Tell Sparks to get in touch with the station and find how many men were saved."

The quartermaster climbed down the ladder and made his way to the radio shack. Young Belford was on duty. "Where is Mr. Sharp?" demanded the quartermaster.

"Gone," said the young wireless man, and there were tears in his eyes.

"Gone! You don't mean he went in a boat?"

The radio man nodded. For a moment he could not speak, then he managed to say, "I saw him leap into the last boat." And a great sob broke from him.

"He may be safe," said the quartermaster. "Most of the men got ashore. We could see them with the glasses."

"Oh, I hope so!" cried the lad.

The quartermaster ran up on the bridge again. "The chief radio man is gone," he said. "He pulled an oar in the last boat."

"Find young Harper," said the captain.

"I saw him on deck helping the sailors."

"Send him to me."

When the quartermaster had summoned Henry, the commander said to him, his voice quivering with emotion, "Lad, Mr. Sharp is gone. He was in the last boat. Are you sure you can operate our wireless? We need it now as we never needed it before."

"I can," said Henry quietly.

"Then try to get in touch with this land station. I don't know which one it is. I thought that we were opposite Truro. We're somewhere in that neighborhood. Find which station it is, and ask how many men got ashore."

"But what about Belford?" asked Henry. "He's the regular assistant. Oughtn't he to do it?"

The captain glared angrily at Henry. Then he comprehended what was in the boy's mind. "Send Belford to me," he said. "It's no time for etiquette now. I want action."

"You shall have it," said Henry, and he hastened to the radio shack.

"Belford," he said, as he closed the door to shut out the howl of the wind, "the captain has asked me to send a message. He wants you to report to the bridge."

Henry sat down at the desk, hastily searched through the list of Coast Guard station calls, and began combing the air with the wireless to carry out the captain's wishes. Meantime young Belford mounted to the bridge and stood before his commander.

"Young man," said the captain, "Mr. Harper is going to take charge of the wireless. He's a former government operator and has had much experience. I am sorry to go over your head,

but we must all do our best. It's a trying time."

"I will help all I can," said the assistant operator loyally.

"Very good," said the commander. "Go back to the wireless house. Tell Mr. Harper to come to me the instant he gets word from shore."

"Yes, sir," said the radio man, and he hurried back to his post.

Meantime Henry had been flashing abroad call after call. He had just got his station when young Belford came back. A moment more and his great question was answered. He turned from his key, his face aglow.

"The captain wants to see you the minute you're done," said young Belford.

Henry rose and sought the bridge. "Captain Hardwick," he cried, "every man except the crew of the first boat is accounted for. They are all safe at the station."

"Thank God!" cried the commander. For a moment he could not speak. Then, in husky tones, he said, "Henry, I've told young Belford that you are in charge of the radio. Don't feel any hesitation about taking charge. There is now a vacancy in our radio staff. You are regularly appointed to the vacancy and detailed to act as chief."

CHAPTER XII

THE RESCUE

Under other circumstances the captain's words would have caused Henry to shout with joy. Now there was no sense of jubilation in his heart. He was stunned by the awful catastrophe that had occurred. Nine men that he had been living with, and had come to like, had suddenly been wiped out of existence. The horror of it had laid hold upon every soul on the *Iroquois*. Perhaps it was fortunate for those still left on the ship that there was so much to be done. There was no time for brooding, or mourning for lost comrades. The roar of the storm in the darkness was terrifying. The winds still were shrieking through the cordage. Enormous waves were sweeping down on the sturdy little cutter, threatening to overwhelm her. Only a bit of iron, a length of chain, stood between the *Iroquois* and a fate like that of the *Capitol City;* and a chain is no stronger than its weakest link. There might be a weak link in the chain of the *Iroquois*. Her work must be ended and the little ship taken out of danger as quickly as possible. Every soul on board felt this distinctly. Perhaps no one felt

it more strongly than Henry did. The unaccustomed violence of the sea appalled him. So the office that had come to him so suddenly did not for a moment seem to him to be a matter of personal advancement. It was a call to duty. It was his chance to help forward the work the *Iroquois* had set out to do.

Very sober was Henry as he reëntered the radio shack. "Belford," he said, "the captain thinks my experience as an operator will make me useful on the *Iroquois* until Mr. Sharp can get aboard again. He has asked me to take charge of the wireless room. I did not want to do it, for you should be in charge. But the captain has asked me to help, and all I can do is to obey. You'll help me, won't you, Belford? You'll pull with us, won't you? We've got to work together and do our best or we may never get out of this situation."

"Of course, I'll help you. Don't give the matter another thought. I'll help you just as loyally as I would help Mr. Sharp," and the lad held out his hand.

"Thank you, Belford," said Henry, grasping his hand. "The wireless will mean a lot to the *Iroquois* in the next twenty-four hours. We'll both stand by the captain to the finish." Then he added: "Where's Black? I want to talk to him, too."

"I wonder where he is," said Belford. "I can't remember seeing him for several hours past. Mr. Sharp was on watch the first four hours after we left Boston, and I stood watch the next four. Black ought to be on duty now. But there's been so much excitement I never thought about whose watch it was."

"You don't suppose he went in one of the boats, do you?" asked Henry.

"No, I don't," said Belford. "And yet he might. I'll see."

He went to the stateroom. Soon he reappeared with a peculiar expression on his face. "He's in bed," he said, "and has been abed all the while we've been trying to save the *Capitol City.*"

The two young operators looked at each other. The same sickening suspicion was in the mind of each. But both hesitated to put it into words.

At that moment the quartermaster entered the room. "The captain wants you to talk to the *Capitol City,*" he said, "and find out how fast she is taking water, and how deep it is where she lies."

"You do that," said Henry to his companion. "You've had lots of experience with the blinkers. I haven't had any."

Young Belford set the blinkers to winking merrily. The response was immediate. Colored

lights began to flash aloft on the *Capitol City's* yardarm. That vessel was resting easily on the sands, came the answer, and was taking in water no faster than her pumps could pump it out again. The tide was rising rapidly. It was already six feet deep. This news the assistant operator carried to the commander.

"We'll save her yet," said the captain. "This tide is going to be a very high one, if I am any judge. The wind's been blowing the water shoreward now a full twenty-four hours."

Rapidly the water rose. As the captain had said, the wind had been blowing it shoreward for a full day. The ebb tide had shown what the wind could do, for the water was far higher than usual when the tide turned to flood. Wind and wave both pressed the flood landward, and now the tide, running in with the wind, mounted and mounted until it was evident that the captain's hope was to be realized. As the tide rose and the water about the cutter deepened, Captain Hardwick put a leadsman to sounding.

"We must work in with the tide, Lieutenant," he said to his assistant on the bridge, "and be ready for action the instant the tide is at flood. It won't wait a second for us, though, if this wind holds, it will delay the ebb. We must not lose a moment."

Long before the tide was full, Captain Hard-

wick ordered the anchor-chain released. At once the cutter began to move toward the beach, very slowly at first, then faster and faster as wind and wave gave her momentum. The lead was kept going incessantly, the leadsman shouting the depths up to the bridge as he made his soundings. Foot by foot, fathom by fathom, the *Iroquois* drew nearer the *Capitol City*. Steadily the cutter's searchlight played on the disabled ship, its brilliant beam boring through the inky dark.

Slowly, almost imperceptibly, yet none the less truly, the wind abated its violence. Less often the great waves swept over the deck of the stranded steamship. Not so shrill was the screeching of the *Iroquois'* cordage. The captain, with his wide experience, had evidently foreseen a change in the weather. He was evidently expecting the wind to fall, and if it did, it would help in the effort to float the stranded vessel, for a great pressure against the ship would be removed. But as the minutes passed, the wind did not become noticeably less. It still howled angrily, and swept with fitful force over ship and wave. Now it came in gusts, blowing furiously for a time, then lulling. But without ceasing the tide drove in, and the waves crept further and further up the sides of the stranded steamship, and the combers crashed ever higher up the sandy beach.

Fathom after fathom the *Iroquois* followed the rising tide shoreward. When the lead showed questionable depths, the anchor-chain was made fast, and the little cutter paused for a while in her progress, marking time, as it were, to the music of the storm. With unwonted rapidity the tide mounted up, and Captain Hardwick followed it as fast and as far as he dared.

Plainly there was a good chance to save the *Capitol City*. As the two ships came closer, every detail of the stranded ship was visible. She had suffered astonishingly little, when the violence of the storm was considered. She lay almost on an even keel. Though not pointing directly to the waves, the stern was so nearly in line with them that they were parted as they reached her, sweeping past with little damage to her hull. A section of her taffrail was gone, and a part of her rudder was broken off. Otherwise she appeared to have suffered little, and the success of the pumps in keeping down the water in the hold showed that even her plates had not been badly started. Her superstructure had suffered little. One of her small boats had been washed away, but otherwise she seemed to the watchers on the *Iroquois* to be in remarkably good condition.

What was more important, her crew was intact. Huddled high on the bridge and in the

rigging, they had crouched together while the men from the *Iroquois* were trying to reach them. But as the tide ran low, those in the rigging had climbed down and mounted to the bridge and superstructure, seeking warmth, for the piercing winds had well-nigh frozen them as they clung to the rattling stays. Apparently not a man had been swept from the *Capitol City*. Almost the full crew was there to work the ship, and Captain Hardwick was glad, indeed, that there was no such shortage of hands on the *Capitol City* as existed on the *Iroquois*. There would be work for many hands when the time was ripe for the effort he had in mind.

At last the *Iroquois* came within reach of her stranded sister. Now a line could easily be fired across the helpless vessel. Ready was the faking-box with the shot-line faked neatly on the tall spindles within it, ready to run out smoothly as it traveled through the air on its momentous journey. The little brass gun on the after-rail of the *Iroquois* was uncovered, a charge was inserted in it, its Camden projectile, with shot-line bent fast, projected from the muzzle of the little gun, and all was ready for the effort. The captain himself sighted the little gun, for the gunner, alas! had been in the *Iroquois'* surfboat. A moment the commander waited, until the cutter rode on an even keel.

"Fire," he called.

There was a loud explosion, the night was stabbed with a sheet of flame, and the projectile went hurtling out and up, tearing its way across the hundreds of yards of raging sea that still separated the two ships. For an instant those on board the *Iroquois* were blinded by the flash of their gun. Then they tried to trace, in the glare of the searchlight, the flight of the shot-line. Straight and true it winged its way toward the stranded ship. Then a rush of scurrying forms on the *Capitol City* told the watchers on the *Iroquois* that the shot had carried true. In a moment more the crew of the *Capitol City* were hauling in the little shot-line.

Already a heavier line had been bent to the end of the light shot-line, but first it had been passed out through one of the quarter chocks. Steadily the crew of the *Capitol City* drew this heavier line aboard their craft. This in turn was followed by a heavy hawser. But Captain Hardwick had no intention of risking defeat through the use of so uncertain a towing line as a manila hawser. He meant to make fast to the *Capitol City* with a wire cable. To that end young Belford had been busy with the blinkers, and the flashing lights of the *Capitol City's* yardarm had answered back. Captain Hardwick had apprised his fellow-commander of his

intention, and warned him of the necessity of heaving the heavy wire cable an inch at a time, as it was paid out cautiously by the *Iroquois*. No buoyancy had this line, like a manila hawser. Like a plummet it would drop to the bottom of the sea, and once it started to run, out it would go its full length.

Steadily the rope hawser was paid out, and steadily it was pulled aboard the *Capitol City*. Then the end of the wire cable, bent to the hawser, was lowered, and foot by foot, with a caution hardly credible, the handful of men on the *Iroquois* responded to the tug on the line and let the wire cable slide through the quarter chock. At the same time Captain Hardwick drifted the *Iroquois* closer and closer to the vessel on the shoals.

At last the steel cable was aboard the *Capitol City,* and safe about her bitts. The other end was now made fast to the bitts of the *Iroquois*. The great, unbreakable, steel cable now stretched from ship to ship. With all the power at her command, the little cutter would presently strain at this line. At this same time she would heave in her anchor-chain, and the vast length of this enormous chain, reaching hundreds of fathoms out into the ocean, and weighing tons upon tons, would add to the anchor a gripping force that would hold like the rock of Gibraltar. Like a

man pulling himself up a rope, arm over arm, the little cutter would heave itself along the length of this anchor-chain with the full power of both its propeller and its heaving engine, and behind it would come the *Capitol City*—perhaps.

Time alone would tell. And now all was ready. Steam was up on both ships, ready for the supreme effort. It remained only for the tide to reach flood, but how slowly it now seemed to advance. Up and up it rose, creeping higher and higher up the sides of the stranded ship, the lacy edges of the waves foaming ever higher on the sandy beach. Anxiously the captain kept his watch. Now, with careful eye, he studied the heavens. Now he bent his gaze upon the tumultuous sea. Now he went forward, and with his own hands examined the anchor-chain and looked at all its mechanism for heaving. Again he went aft and studied the arrangement of the hawser, appraising with practised eye the lay of the two vessels, the sweep of the waves, the movement of the tide.

High indeed this was, and as the water mounted ever higher on the *Capitol City's* side, and the leadsman found more and more depth beneath the *Iroquois,* the captain's face showed ever-growing confidence. From time to time he talked with the master of the *Capitol City,* with young Belford as his intermediary. Anon he

studied the skies and noted with satisfaction the steady abatement of the wind. As the time drew near for the tide to be at flood, the eager commander paced the deck, impatient for the trial. Yet with eagle eye he watched the tide. At last the critical moment arrived. The commander's judgment told him it was time to be moving. The tide was not yet quite at flood, but it was high, extremely high. It would not mount much higher. When it turned, the very volume of it would cause it to run out fast.

Briskly he mounted to the bridge. "Tell the *Capitol City* we're going to move," he called to the radio man. "Tell the captain to put on full speed astern."

Above, the blinker lights flashed forth their calls, and promptly from the *Capitol City* came answering flashes. The ship would turn on her power. Meantime the indicator in the engine room of the *Iroquois* communicated its message to the men at the engines. The propeller began to move, slowly at first, then faster, then at full speed. Forward, the heaving engine began to strain at the anchor-cable. The little cutter trembled and shook with the effort. Loud rumbled the churning machinery in her hold.

Minute followed minute. The little craft strained and pulled. She rose and fell in the sea. Her propeller churned the waters into yeasty

foam. Link by link the anchor-chain was heaved in. Foot by foot the *Iroquois* crept ahead, but she was only making the wire cable taut. The *Capitol City* had not budged. Glasses to eyes, the captain studied the great steamer as her propeller drove round and round in the swirling water. Critically he watched the waves sweep past her sides, for continually the glaring light of the *Iroquois* was focused on the helpless steamer. Still the tide rose higher, though now but slowly. Every inch counted now. A few more inches and the vessel on the sands ought almost to float of herself.

On deck the sailors watched the tide with anxious eyes. Well they knew what a little more water would mean to the success of their efforts. From time to time they dropped bits of wood over the sides, to see whether the tide was still carrying toward the shore. Anon they studied the wire cable now stretched tighter than a fiddle-string. The tide continued to rise, though now almost imperceptibly. Then it hesitated, halted, and stood still. It was at flood. With every ounce of power they possessed the two steamships strained and struggled. The tide paused, as though to give them ample opportunity. Then, almost imperceptibly, it turned and began to flow out toward the sea. And at that instant the lights on the *Capitol City* flashed

forth, and a moment later young Belford came racing up to the bridge with a message for the captain.

"The *Capitol City* is moving," he said. Then he turned and raced back to his post.

A shout went up as the sailors sensed the import of his message. Every eye was focused on the stranded steamer. For a moment no motion was discernible in her. Then plainly she could be seen to move. The shout was followed by a cheer, for now the big steamer was plainly ploughing through the waves. Little by little she gained momentum. Moment by moment the *Iroquois* drove ahead faster. But it was no easy task that faced her. No tractable tow was this behind her. With broken rudder, and advancing stern foremost, the *Capitol City* yawed badly. Nevertheless, she came on behind the *Iroquois,* as the latter forged ahead, heaving in her anchor-chain fathom after fathom, and fighting her way out to the depths.

By the time the anchor was heaved aboard, the wind had lessened markedly. No longer was it blowing from the east. It was shifting, working around to the north. The tide now was running out strong. There was no danger that either wind or tide would carry the rescued vessel back to the shoals again. When the captain of the *Iroquois* judged it to be safe, he stopped the

cutter. With great care the crew of the *Capitol City* shifted the towing cable from stern to bow, and made it fast to the forward bitts. When this was done, the *Iroquois* pointed her nose into the wind, gradually got under way, and with the disabled steamer behind her, headed once more for the city of Paul Revere. It was the nearest harbor in which the crippled vessel could find refuge.

CHAPTER XIII

HENRY FINDS HE HAS AN ENEMY

SLOWLY the staunch little cutter steamed ahead. Had it not been for the broken rudder, the *Capitol City* could have gone on her way, unattended, as she was little damaged. But with her rudder injured, she was in a bad way. Although it was not entirely gone, and it helped somewhat in guiding the ship, still at times the huge craft yawed badly. By paying out more cable Captain Hardwick partly overcame this tendency to yaw. Nevertheless it was difficult enough to make headway, for the wind had now whipped around almost to the north, and for a time the two ships had to sail into the teeth of it. The *Capitol City* could not use the full power of her engines, but she kept her propeller turning, and this greatly lessened the burden on the cutter. Unless some unforeseen difficulty should arise, the two vessels would have no trouble in reaching their port.

There was much to be done on both ships, however. The captain of the disabled steamer wanted to get in touch with his agents, and inform them of the safety of the vessel. His wireless was still out of commission, and his messages

had first to be sent to the *Iroquois* by blinkers and then relayed by wireless. So both Henry and his friend Belford were kept busy for a long time. Then, too, Henry had to get in touch with the Coast Guard land station where the men from the *Iroquois* had found shelter, and send instructions concerning them. The captain felt that he could operate the *Iroquois* with his little force for the short run to Boston and thence to New York. His men were willing to do double duty. It was necessary for him to get back to New York at the earliest possible moment. The run to Boston would require only a few hours. Then he could retrace his steps immediately. It was simpler to have the seamen go direct to New York and rejoin the *Iroquois* there, than to wait for them in Boston. So Henry got in touch with the land station and communicated the captain's orders to that effect.

By the time the two young wireless men had finished their tasks, they were about worn out. It was far into the night. Belford had been on duty for many hours. Henry, though not on duty so long, was almost exhausted by the nervous strain under which he had been working. Furthermore, he would have to respond, at any moment, to any call for wireless communication.

"We must get to bed," he said the moment their tasks were done. "Won't you please call

the other operator? Then we can arrange our watches."

Belford summoned Black, who came into the radio shack, yawning. "I guess you'll have to stand watch for a while, Black," said Henry. "Things have got a little mixed up in the wireless house, but we'll get them straightened out shortly. Suppose you stay until breakfast. That won't be long. Then we can rearrange our watches."

"That isn't my regular watch," said the young radio man, sullenly. "And why should you be telling me what to do, anyway? That's up to Mr. Sharp."

"But Mr. Sharp isn't here," replied Henry. "He went in one of the boats. I am working with you men. We've got to do the best we can under the circumstances. We'll get things straightened out soon, and back in their old order."

"And do you think I am going to take orders from you?" said the young operator, insolently.

Henry's face flushed. An angry light leaped to his eyes, and his fist involuntarily clenched. But he took a grip on himself, and replied very slowly and deliberately: "It isn't a question of taking orders, Black. The captain has asked me to work with you two men, and the three of us must pull together until we get the ship safe

home. Aren't you willing to do your share? Belford here has been working like a Trojan for I don't know how many hours. He's all worn out. We want you to take this trick. You'll have to watch close, for there'll likely be calls for us. Summon me at once if you hear our call."

"I reckon I can answer a call as well as anybody on this boat," growled the scowling radio man.

"See here, Black," said Henry. "Why do you want to make trouble? We're still at sea, and we've got some tall traveling to do before we are back safe in New York. We've all got to pull together. I'm not asking you to do this for me. It's for the good of the ship." And then, noting the sullen look in the lad's eyes, Henry continued: "There's one thing more. I'm acting under orders from the captain. He has ordered me to take charge of the wireless. My instructions are to let no one touch the key but myself. All I can do is to pass those orders along. If you hear a call for the *Iroquois,* waken me at once. I'll answer it."

Young Black mumbled an unwilling assent, and swore under his breath. Henry and the other radio man passed out of the shack to the stateroom. They noticed that the wind had decreased greatly.

Once in the stateroom, Henry turned to his

companion. "What do you suppose ails that fellow, Black?"

"I don't know. None of us can make him out. He's been snappy and surly ever since he came aboard a few months ago. He's lazy—too lazy to study and practice and become a really good operator. But he is quick and reads wireless calls very well. He spends most of his time smoking cigarettes and reading dime novels. He's simply crazy to use the wireless. He thinks he's a great operator. The chief electrician would be glad to let him practice under his own supervision, the way he does with me. But he doesn't want either of us to send when he isn't present. He's afraid we might burn out something. I don't want to knock Black, but I'd be afraid to have him monkey with any machine I was responsible for myself. He's the most careless, reckless fellow I ever saw."

"But why should he take such an apparent dislike to me?" demanded Henry. "I'm a complete stranger to him. He hasn't any possible reason for disliking me."

"He thinks he has," said Belford.

"He does? What is it?"

"Why, Mr. Sharp let you send a message on the wireless outfit yourself."

"But Mr. Sharp was right beside me, to make sure I did no harm."

"I know it, but that doesn't make any difference with a fellow like Black. He dislikes you very much. He tried to tell me a long story about it. And to have you put over him as chief is more than he can stand. He's a bad egg, I believe. And I'd watch him closely if I were you."

"Of course I'll watch him, if he's likely to shirk his duty," said Henry. "He might get the ship into trouble."

"I don't mean to watch him in that way. Watch him on your own account. I don't know that he'd really do anything to anybody. But he's always talking about fixing this fellow or that fellow. He might try to do you some harm."

Henry smiled. "There's little danger," he said. "We'll be in New York in a couple of days, and I'll probably never see him again after that."

But though Henry smiled at the idea of the young operator's doing him harm, he could not dismiss from his mind so easily the feeling that had come to him of uneasiness for the boat itself. He got his nightclothes from the captain's cabin, undressed, and slipped into the chief operator's bunk. But weary though he was, he could not sleep. He was worried, and worry was almost a new sensation to him. He could not at first

understand it. He would be almost asleep, then he would wake up with a start, his leg or arm jerking nervously. It was partly the reaction from the long strain he had been under. That sort of experience was absolutely new to him, and he could not forget the horrible things he had witnessed. But gradually he came to realize that there was something more to his restlessness than the reaction from nervous strain. Something was preying on his mind. After he had tossed sleeplessly on his mattress for a long time, he comprehended what was the matter. He was worried about the wireless.

This was the first time in his life that Henry had ever been placed in a situation of great responsibility. The responsibility was very real, too, for the lad understood that in large measure the safety of the ship now depended upon him. Much more than his own life was at stake. The lives of all the men left on the cutter, and the safety of the ship herself, might at any moment become absolutely dependent upon him. If no danger threatened aboard the *Iroquois,* there might yet be other lives and other ships endangered, and upon how well his instruments were cared for, and how thoroughly the watch was kept, would depend the possibility of catching those far-flung cries for help.

Had Henry been put in charge of the wireless

thus suddenly and unexpectedly, under less harrowing circumstances, he doubtless would have felt the responsibility far less poignantly. But for hours past he had been watching the fight against death, and even death itself. He was nervously keyed up to a fearfully high pitch. His nerves would not let down. Doubtless it was the sense of responsibility that kept them taut. Again and again he told himself that it was his business to go to sleep and rest, so that he might be fit for duty when his turn came. But his arguments had no effect upon his nerves. He was unable to sleep.

For an hour or two he tossed in his bunk restlessly. Again and again he fell asleep, only to wake a few minutes later. The situation preyed on him. He could not keep his thoughts away from the radio shack. Suppose all was not right there. Suppose young Black was taking this time to defy orders and fool with the wireless key. Suppose when Henry woke up he should find the wireless out of commission. And suppose the *Iroquois* should break *her* rudder, or crack her shaft. She might, with such a strain on it, in such a sea. Suppose the captain should go wrong in his reckoning and the cutter should pile up on the sands, as the *Capitol City* had done. Suppose—suppose —— A hundred terrifying suppositions came into Henry's mind.

Finally he could stand them no longer. He rose, drew on his clothes, and made his way toward the radio shack. Light was beginning to illumine the eastern sky. The sea still heaved violently, but the wind had lost most of its force. Peace was returning to the troubled world.

Then Henry stepped inside of the radio shack, and stood as though petrified. Young Black lay back in his chair, his eyes tightly closed, snoring loudly. He was sound asleep. For all that Henry knew, he might have been asleep for a long time.

"Black," said Henry sternly, touching the sleeping wireless man on the shoulder. When the sleeper merely grunted, Henry said, still more sternly, "Wake up!" And this time he shook the sleeper vigorously.

Slowly young Black opened his eyes. A savage oath burst from his lips as he saw who was standing before him and realized his situation. Then a crafty look came into his eyes. He laughed.

"Fooled you that time, didn't I?" he chuckled. "You thought I was asleep."

"No, you *didn't* fool me," said Henry. "I don't *think* you were asleep. I know it. Put on your head-phones and attend to your business."

All the ill nature in the other lad's being leaped to the front. "You spy!" he snarled, with an

oath. "So that's the sort of chief radio man we've got, is it? A sneaking spy!"

For a moment it was all Henry could do to keep from hitting the lad. But he took a grip on himself and for a moment made no answer. Then he said: "I shall report this matter to the captain as soon as possible. You may go to your bunk. I will finish your watch myself."

Slowly the third-class radio man arose and left the shack. At the door he turned and faced Henry. "You sneaking spy," he said, with another oath, "if you tell the captain, I'll fix you as sure as my name is Black."

CHAPTER XIV

A CATASTROPHE

HENRY gave slight heed to the young operator's threat. Not for one second did he fear violence from him. Should any physical encounter occur, he was sure he could take care of himself, and he saw no other way in which young Black could harm him. He believed his own word would be taken quicker than Black's. Knowing that he had done no wrong, and that he intended to do none, he saw no way in which his rebellious assistant could do him an injury. So, as soon as he could, he dismissed the matter from his mind.

But on account of the excitement accompanying his little encounter with Black, it was not altogether easy to forget the matter. When Henry remembered that Black had been asleep at the key, and that some one might have been trying to talk to the *Iroquois,* he drew on the head-phones and for a space sat listening. Then he threw over his switch, flashed out a general call, and asked if any one had been calling the *Iroquois.* When, after listening and repeating the message, there came no response, he felt re-

lieved. He sat back in his chair, satisfied that all was right.

After breakfast Belford came on duty, according to agreement. He expressed his surprise at finding Henry in the wireless shack. Henry told him what had happened. Young Belford frowned deeply.

"Be careful, Harper," he said. "I never trusted Black. He might try to do you some harm."

"I don't see how he could," said Henry. "There are too many people about."

"Just the same I wouldn't spend too much time out on deck after dark. There's seldom any one out there except the watch forward."

"I'm sorry it happened," remarked Henry. "I hate to tell on him."

"But you must," urged Belford. "If you don't, he'll think he has scared you out of it. Then he'll be worse than ever. And he ought to be punished, if only to make him more careful in future. You can't tell what might happen if the wireless watch goes to sleep."

"I shall report him, of course, but, none the less, I dislike to do it. It almost makes me feel like the spy he said I was."

"Don't feel that way. What you are doing you are doing for the safety of the ship."

Henry surrendered the watch to Belford and

went straight to the captain's cabin. "Come in," said the captain, when Henry knocked.

"Good-morning, Captain Hardwick," said Henry, as he entered the cabin. "I have come to you on a disagreeable business. I have to report young Black for carelessness about his work."

The captain looked at Henry keenly. "Have you boys been quarreling?" he asked.

"I was afraid you'd think that was about the size of it," responded Henry, "and I was very reluctant to bother you with the matter at all. But I thought I really owed it to you, Captain Hardwick. I could not sleep after the excitement last night, and I dressed and went to the wireless room. Black was on duty, and I found him fast asleep."

The captain's face grew dark as a thundercloud. "Asleep at the wireless key!" he said. "It was indeed your duty to report the matter to me. I'll break that fellow quick. We'll have him before a court-martial and clap him in the brig, and he'll be dishonorably discharged the minute we reach shore."

"Please don't do that, Captain Hardwick. I should hate to think I had made a fellow lose his job. Maybe he'll do better in future. Won't you let him off with a reprimand or some slight punishment?"

The captain looked at Henry searchingly. "I can't exactly understand you," he said. "You report a man for wrong-doing and then don't want him punished. Can you explain that?"

"Why, sir, he ought to be reported. That's plain enough. Maybe he ought to be punished, too. But if he is punished, it will look as though I was simply trying to get even with him. I wouldn't want anybody, even Black, to think I was so small as that."

"Get even with him!" cried the captain. "Then you did have a quarrel. I can't seem to get head or tail of this business."

"It was like this, Captain," said Henry, seeing now that he could no longer keep anything back. "I found Black asleep. I told him I would report him to you. We had some words. But please don't think I'm reporting Black because I'm sore at him, or anything like that."

"I begin to understand," nodded the captain. "Is there any one else who knows about this affair?"

"No one was present, sir, but Belford knows about it."

"Send him to me," said the commander.

Henry relieved his fellow-operator at the key, and Belford went direct to the cabin. He told the captain all he knew about the affair.

"I think I understand now," said the commander. "Harper told Black he would report him, and Black called him a spy. That went hard with Henry. He couldn't help feeling he was a sort of spy, even though he was doing his plain duty."

"And don't forget, sir, that Black threatened to fix Henry if he reported him," said Belford.

The commander of the *Iroquois* turned the situation over in his mind. "Jimmy," he said, "was there any good reason why Black should have fallen asleep? Was he worn out, as some of the rest of the crew were, by their long efforts?"

"He was the freshest man on the boat," said Belford, with feeling. "He never left our cabin the whole time we were trying to save our men, and most of the time I think he was in bed."

"Why?" demanded the captain, astonished.

Jimmy hesitated. "I think, sir, he's yellow."

"Send him to me," thundered the captain.

Just what occurred during that interview nobody but the captain and the delinquent operator ever knew. But young Black came out on deck at last, looking both frightened and very vengeful, and the captain announced that Black had been restricted for twenty days. If the third-class radio man realized how near he had been to a general court-martial, he gave no sign of know-

ing, and showed no gratitude for the pleas that had in all probability saved him.

The run to Boston continued without incident. Slowly but steadily the *Iroquois* proceeded with her tow. The wind fell steadily, and the sea grew calmer. The journey up the tortuous channel was made without mishap. The *Capitol City* was safely berthed where she could be repaired, and the *Iroquois* continued to the Navy Yard, and secured some small boats to replace those she had lost overboard. Then the little cutter once more headed down the harbor and out to the open sea.

The passage back was indeed an eventful one to Henry. Had it not been for the terrible events he had so recently witnessed, events which he could not forget, the journey would have been joyful in the extreme. The weather was excellent. Bright and clear shone the sun: the sea, becoming ever calmer, flashed and sparkled brilliantly; the air had a tonic quality. Overhead, white, fleecy clouds floated in an azure sky.

Porpoises appeared. In shoals they played about in the sea. Like so many hurdlers, they drove forward in groups, first one and then another, lunging above the waves as though to leap over some unseen marine obstacle. Henry had never before seen porpoises. It delighted

him to watch them. And when he found that a shoal of them was swimming immediately in front of the ship's prow, he leaned over the forward rail with the sailors, and watched them. In particular he was interested in two of the great, lumbering bodies that swam side by side immediately before the cutwater. Their tails almost touched the prow. They looked as though they were towing the ship, as apparently, without effort, they kept pace with it. But when a sailor hit one of them with a clinker, frightening them, the great fish showed that they were anything but lumbering. They darted away from the *Iroquois* as though that ship were tied to a post, instead of traveling fourteen or fifteen miles an hour. Henry wondered how fast porpoises could swim. He thought that they must be going at least twice as fast as the cutter. He remembered that he had read of the enormous speed of those curious denizens of the deep, the barracuda and the sailfish, which travel sixty or even seventy miles an hour.

But if the porpoises interested Henry, the next fishes he saw held him almost speechless, for off the Nantucket shoals the *Iroquois* came upon several whales. With the glasses Henry could make them out plainly. Enormous bulks they were, and at times they spouted columns of water aloft, which was quickly blown into misty spray

by the breeze. Henry had read of whales spouting, but he had never expected to see one of them doing it.

Close to the Ambrose Lightship the *Iroquois* passed as she was heading into the channel for New York. On the lightship's flaming red side was painted in huge letters the word " Ambrose." Instead of topmasts she carried, on her masthead, round red globes for lights at night. Henry marveled at the sturdiness of these little ships that lie at anchor month after month, riding out the most terrific storms, and guiding the sailor on his way.

As the *Iroquois* sailed past the lightship, the colors of the latter slowly fluttered down from aloft, then rose again. Henry had not previously seen one ship salute another by dipping her colors. He noticed the flag fluttering down, but did not catch the significance of it until the quartermaster called to a sailor to run aft and dip the *Iroquois'* flag. A moment later the cutter's ensign came fluttering down, then was run aloft again.

As the *Iroquois* drew near to New York there was an abundance of work for Henry to do. He had to be in the wireless house much of the time. The ship had to report her position at regular intervals. There were orders to be taken and messages to be sent. Henry felt that his days

as an operator were passing fast. When Mr. Sharp rejoined the boat in New York, he would of course be relieved from duty. He wanted to learn all he could about the work of a wireless man on shipboard, so hour after hour he sat in the wireless shack, sometimes alone at his own watch and sometimes with his associates.

What was his great joy, on one of these long watches, to hear in the frosty air the crackling signal "WNA—WNA—WNA—de—WNG." Well did Henry know that call. Often had he flashed it out himself. It was the call of the *Lycoming,* and her sister ship, the *Tioga,* was calling her. The *Lycoming* must be nearing port. Roy would be at her key. He would be in New York when Henry got there, perhaps, or at any rate he would reach there a few hours later. Henry felt that his troubles were over. Roy would help him out, and maybe could find him a permanent job. At any rate, Roy had repeatedly asked Henry to make the trip to Galveston and back as his guest. He would make the trip now. The immediate future was provided for. With his heart beating with happiness, Henry listened to the exchange of communications between the *Tioga* and the *Lycoming,* then threw over his switch and rapped out the call, "WNA—WNA—WNA—de—NTE."

Promptly came the crackling reply, "NTE—NTE—NTE—de—WNA—K."

How well Henry recognized the swift, sure, even sending. Nobody else in the world handled a wireless key just like Roy.

"This is Henry Harper," flashed back Henry. "I am on the Coast Guard cutter *Iroquois*. We are heading for New York. Expect to arrive after dark to-night. Where can I see you?"

"We dock about sunset," came the reply. "Come to the *Lycoming*. Will wait for you."

Happy indeed was Henry. A few hours would see him with his old friend. His troubles would be over. Poor Henry! If only he could have foreseen what the night would bring forth, his smile would have vanished quickly. But he could not foresee, and gleefully he continued with his tasks.

As the ship came nearer and nearer to her harbor, Henry had more and more to do. The captain kept him busy at the wireless. Among other messages, Henry sent one about the men who had been swept ashore, and who were now in New York. They were to be at the Staten Island landing and come aboard the moment the *Iroquois* dropped anchor. Supper time came. Henry had been eating with the crew, since he became an operator. Now the captain asked him to take this last meal on board with him in the

cabin. It was a joyous meal for the lad. He told the captain about his friend Roy and the good times they had had at home, and about his coming meeting with him.

After supper, as they sailed up the channel in the dark, Henry started for the radio house again to relieve Belford. He passed the surgeon, who was hurrying forward with his medicine case.

"What is the trouble, Doctor?" asked Henry.

"One of the sailors mashed a finger while doing something to the anchor-chain," replied the surgeon, hurrying on.

Henry entered the radio shack and relieved Belford. The quartermaster called the latter up to the chart-room. Henry adjusted the head-phones and almost immediately caught the call of the *Iroquois*. They were almost at their anchorage, and the call came with startling distinctness. Henry threw open his switch and flashed an acknowledgment of the call. The commandant of the New York district of the Coast Guard was sending a message for Captain Hardwick. Henry wrote it down, copied it neatly on a telegraph blank, and climbed up the ladder through the darkness to the bridge.

The ship's bell was musically striking the hour. It was seven o'clock. Henry thought he should miss that musical bell after he got ashore. Captain Hardwick stepped into the chart-room, read

the message, and wrote a reply. Henry hurried back to his post. He had not been gone five minutes, yet he took the precaution to listen in for a little time. No one was calling him. He spread the telegraph blank on his desk, read the captain's message, and made ready to send it. He threw over his switch, put his fingers on his key, and started to call headquarters. A few tiny sparks leaped across his gap. Then his key went dead. Aghast, he dropped his phones and began to examine his instruments. But he could see nothing wrong. Everything looked as it had always looked. Again Henry tried his key. There was no response. His face went white. Apparently the costly wireless outfit was ruined. It must have been burned out, and apparently Henry himself was to blame.

CHAPTER XV

UNDER A CLOUD

FOR a moment Henry was dumbfounded. He could not imagine what had gone wrong. Then it occurred to him that perhaps he had a faulty connection somewhere. He ran his eye and hand over all the lengths of wire in his outfit, but nowhere could he see anything wrong. More than once he tested his key, but it did not come to life. Then he thought of his auxiliary batteries and switched to them. The result was the same. Everything appeared to be all right, but there was no answering flash when he pressed the key. He thought of trying to make some new sort of connection with this secondary battery. The difficulty was that he did not really know what was wrong. He knew enough about the equipment, he felt sure, to find the difficulty. He started to make an examination, but stopped after loosening several screws. It occurred to him that this might take him a long time. He would not work so surely or so accurately as a man trained like the chief electrician. Furthermore, he might, in trying to remedy matters, make them worse.

Henry thought hard for a moment, then decided that the best thing to do would be to tell the captain at once what had happened. The crippling of the *Iroquois'* wireless just at this juncture could make no vital difference, for the ship was almost ready to drop her anchor, and if the sailors had got the captain's message, they would be ready to come aboard. Doubtless the chief electrician would be with them. He could probably repair the damage quickly.

The instant he had come to a decision, Henry raced up to the bridge. "Captain Hardwick," he reported, "something has gone wrong with the wireless. I cannot get a spark out of it. I was unable to send your last message. I do not know what is wrong, and I thought perhaps I had better not tinker with the instruments, seeing that the chief electrician is likely so near at hand."

"Something wrong with the wireless?" echoed the captain, his face becoming grave. "What have you done to it?"

"Not a thing, Captain. I handled it just as I have always handled a wireless set. When I came up on the bridge a few moments ago it was working perfectly. When I tried to send your message, the key was dead."

"Maybe you had a loose connection."

"I examined the outfit for that, sir."

"Are you sure that you didn't do something to

the instruments? Didn't forget about your power? If you allow too much direct current to pass through your instruments, you will burn them out."

"I know that, Captain. And I didn't use too much current. The outfit is just as it was when Mr. Sharp was in charge."

"Where's Mr. Belford?" asked the commander. "Find him."

Belford was still talking to the quartermaster. They had been on the bridge, on the sheltered side of the wheel-house ever since Belford had left the radio shack.

"Go take a look at the wireless," directed the commander, "and see if you can do anything with it."

"Where's Black?" demanded the captain, after Belford had run down the ladder.

The quartermaster and Henry went in search of him. They found him in his bunk, asleep. It was necessary to shake him roundly before he woke. Evidently he had been long asleep. He went up to the bridge with them.

"Do you know anything about this difficulty with the wireless?" asked the captain, suspiciously.

"What difficulty? I've been in my bed asleep for an hour, sir. I didn't know there was any difficulty."

"Is that so?" pressed the captain.

"We found him fast asleep, as he says," spoke up the quartermaster.

The commander turned slowly to Henry. "The responsibility seems to be up to you," he said.

"It seems so, sir," replied Henry. "Yet that set was all right when I used it just before I came to the bridge. When I got back and attempted to send with it again, it went wrong. Certainly I ought to be entitled to the benefit of the doubt."

The captain looked at him searchingly. "I didn't think you were the sort of boy who would try to crawl out of a difficulty instead of standing up and facing it," said the commander.

"Nor am I," cried Henry. "If I had done the least thing to cause trouble with the wireless, sir, I would tell you frankly and take the consequences. But I did nothing—absolutely nothing. I can't help feeling that somebody tampered with it."

"Who would dare do such a thing?" demanded the captain.

"I don't know. I don't accuse anybody. But I know too much about wireless outfits to believe that this one suddenly went bad without a cause."

"We will investigate the whole matter thor-

oughly, Henry," said the captain. "Pending that investigation, I shall have to ask you to remain aboard as my guest."

"I will be glad to do so," cried Henry. "In fact, I do not want to leave this boat until we get to the bottom of this whole thing."

"It may not take so long as you think to do that. The chief electrician should be aboard in a few moments."

Already the *Iroquois* was at her anchorage. Her engines were no longer running. Against a strong tide she was fast coming to rest.

"Let go your anchor," said the captain suddenly.

The anchor slid into the water, and the ship swung in the tide and came to rest. Immediately the launch was lowered. In a moment it was skimming over to the landing. A few moments more saw it on the way back, laden heavily with sailors.

The chief electrician was aboard. Like many of the others, he was suffering from a terrible cold, but he declared he was fit for duty. At once the captain sent him to the radio shack. Henry and his friend Belford went with him. Like a finished workman, the head radio man set about his task of finding the difficulty. He threw on the current and tested his motor. To all appearances it was in perfect condition. It

operated with perfect smoothness, and the speed was normal and perfectly sustained, but when Mr. Sharp looked at the voltmeter of his generator, there was another story to tell. The meter showed no voltage whatever. There was an open circuit either in the generator or in the field.

At once the chief electrician attempted to adjust the field strength by shifting the field rheostat. To his surprise he found the handle of the rheostat was warm.

"The rheostat is burned out," he said, "and there is likely an open field circuit."

"Then one of the field coils must have gone bad," said Henry.

"Right. I see you do know something about wireless," observed the chief electrician.

Henry reached forward and began to examine the field coils. There were four of them. The bottom one and the two on the sides were warm, but the top coil was cool.

"Here it is!" cried Henry.

The chief electrician rapidly ran his hand over the coils and verified Henry's findings. "We'll take it off," he said, "and put a new one in its place."

Skillfully he set to work. It required care and deft handling, but he soon had the defective coil removed and a new one set in its place. Then he turned to the rheostat, which had been

burned out by the excessive charge sent through it by the defect in the coil. He unclamped the instrument from the desk, unscrewed the wires from the binding-posts, and removed the useless thing. He screwed a spare rheostat in place and connected the wires to the binding-posts. Then he picked up the offending coil and examined it closely.

"Can't see a thing wrong with it," he said. "When I have time, I'll take it to pieces and find out what's wrong with it. Just now I must get the captain's messages off."

He threw the coil in his desk, sat down in the chair, threw over his switch and touched the key. A great fat stream of fire flashed forth.

"It's all hunky-dory," he smiled. "Not so bad as it might have been. Go tell the captain."

Henry drew a deep sigh of relief and raced for the captain's cabin. The captain said little, but gave him further messages to take to Mr. Sharp.

Rapidly the chief radio man flashed out the message that had brought Henry to grief, and then set to work on the new communications.

When the electrician was done, Henry said to him, "Would it be possible for Roy to come see me here?"

"Ask the captain."

The captain considered a moment after Henry

had gone again to the cabin and stated his wish. "I know how you feel," he said. "You would like to see your friend. So would I in similar circumstances. It's pretty late, but wire him anyway, and ask him to spend the night aboard. You've been a real help to me, and I'll be glad to have your friend come. Arrange with him so that we can send a boat ashore to meet him, and tell Lieutenant Hill when to send it."

Henry thanked the captain. Elated, he ran to the wireless house and informed the chief electrician of the captain's order. Mr. Sharp sat down at his key, and in no time was in communication with the wireless man of the *Lycoming,* who was listening in, in expectation of a call from Henry. Mr. Sharp told him enough to make him understand that there was some difficulty about Henry's leaving the ship, and that the captain wished him, Roy, to come aboard the *Iroquois* and spend the night.

Roy came, and was met by a boat. Henry greeted him at the top of the ladder and wrung his hand. He first introduced Roy to the captain, and then took him direct to the radio shack. Mr. Sharp was still there. Henry made the two radio men acquainted, and then the three drew up their chairs, and Henry related briefly the history of his difficulty.

"May I see that coil?" asked Roy.

The chief electrician drew it out of his drawer and passed it to his fellow wireless man.

Roy turned the coil slowly around in his hand, examining it searchingly. It was a coil with a corded covering. Apparently nothing was wrong with it. There was no external evidence of inner deterioration. When he had turned it around several times, Roy handed it back to Mr. Sharp.

"It's odd," he commented. "I never had a coil burn out for me. But I suppose there must have been some weak spot in the insulation, and finally it gave way under the high voltage. Most anything will burn out in time."

"When I have opportunity," said the chief electrician, "I shall take it to pieces. I'm curious to know how it went bad. If one coil will do that, another might. I might be caught at sea that way some time and be in a bad fix."

"I'd do it without fail," urged Roy. "You want to find out why that coil went bad."

"I'll have to," assented Mr. Sharp, "for the captain will make a thorough investigation of the matter."

They remained in the wireless shack, the two radio men chatting about their experiences at sea, until young Black came in to take his turn on watch. He had gone back to his rest after being disturbed by Henry and Belford. Now Henry

and Roy and Mr. Sharp went to the stateroom. Belford entered with them.

When it came time to go to bed, Belford insisted upon sleeping below deck with the sailors, so that Henry and Roy might remain together in the stateroom. Roy was given Belford's bunk, and Henry took Black's, and, slipping into them, they turned out the light. But for some time Henry could not sleep. He was still excited and worried, and he felt very uncomfortable.

But finally he quieted down. It gave him such a feeling of comfort to have Roy at hand. Whatever happened, he knew that he had one staunch friend who would stand by him to the very end, and who would believe in him, and who also possessed the technical ability to be of great service to him. He believed that Mr. Sharp and Belford and the captain were also friendly to him and would be fair. But he knew that Roy was his friend, and in that thought he found such solace that presently he fell asleep. Soon there was no sound in the little stateroom save the heavy breathing of the sleeping wireless men.

CHAPTER XVI

THE MYSTERY GROWS DEEPER

THE three men in the stateroom were astir early the next morning. Roy had to get back to the *Lycoming,* but before he went, he sought and obtained an interview with Captain Hardwick. The commander liked his looks, and felt drawn toward him, as indeed every one was, for Roy was a prime favorite with all who knew him.

"Captain Hardwick," he said, after Henry had introduced him and withdrawn from the cabin, "I want first of all to thank you for your courtesy in allowing me to come to Henry and stay with him overnight. He feels this matter very keenly, and it is certainly hard to think he should start out so unfortunately. I suppose the chief electrician has told you that the difficulty with the wireless was in a coil that had grounded in the field. He will try to learn why it grounded. But no matter what he finds, I want to say that you can have absolute confidence in Henry. I've known him a good many years, and he would be the last person in the world to do anything dishonorable."

"We will go into this matter thoroughly," said the captain, without committing himself, "and I have no doubt we shall get to the bottom of it. You may be sure that I shall do whatever is right."

Roy thanked the captain, was set ashore by the launch, and made his way back to his own ship.

Life aboard the *Iroquois* went on as it ordinarily did. Now that the ship lay in harbor, with fewer duties for the seamen, the captain put the crew to work drilling. Some of these drills Henry had seen the first day or so he was on board the ship. During the extraordinary events that had occurred on that trip, drills had been suspended. Now the captain put his men through their paces with renewed vigor, as though to make up for lost time.

Naturally the thing that attracted Henry most was the practice with the big guns. There were two four-inch guns mounted on the forward deck. The crews of these guns were assembled in their proper places. Then the captain, standing on the bridge, gave an order, the gun-breeches were thrown open, the big shells inserted and the breeches locked, the guns sighted, and, at a word of command, crack they went. But the crack was only a click, for the shells were imaginary, and all the rest of the drill was also largely a matter of the imagination. How Henry did

wish he could see the guns really fired at something! What a noise they would make! And how far their shells would go tearing across the water!

He was especially interested when the captain showed him the range-finder. Never had he seen anything like this before. It was a small horizontal tube, containing prisms and reflecting mirrors. There were eyepieces in the middle of the sides of the tube. When one looked through this range-finder at a distant ship, or target, that target seemed to be divided into two parts, half above and half below a common line. By twirling a screw, and so moving the reflectors within the tube, the parts of the ship moved into place until at last there stood forth a perfect image of a ship. Above this image was a scale, which indicated the range. To find the range, all the commander had to do was to look through this tube at his target, twirl the screw until the image of the target became perfect, and then read the figures that stood just above the image.

The collision drill was also interesting. In imagination, the *Iroquois* had run into another ship, and a great gaping hole had been torn in her hull. At the captain's word of command the crew sprang to their places, and a collision mattress was quickly produced and unrolled. This was then lowered over the side, so as to cover the

hole in the hull. In practice, of course, the collision mattress was not actually lowered into the water, but it was brought to the side of the ship and balanced on the rail, ready to be dropped over. It required little vision to see how useful such an article would be after an actual collision. Unless the hole in the ship were too large, the mattress would be caught in it as it was drawn inward by the suction of the inrushing water, much as a cork might be drawn fast by suction down the neck of a bottle. The mattress, of course, was meant to act like a cork and keep the sea out.

The abandon-ship drill would have had more fascination for Henry had he not by this time been so familiar with the process of lowering a small boat. Nevertheless it was interesting to see the men prepare themselves, just as they would if they were really going to abandon the ship, with compasses and rifles, and provisions, and then line up opposite the boats while the roll was called and each man mustered. Of course the men did not actually get in the boats, though these were lowered even with the rail. Likewise this drill gave Henry a chance to examine the small boats better. Though these were new, they were much like those the *Iroquois* had lost. The quartermaster called his attention to the water-beakers and the boat-boxes that contained certain

kinds of food, fishing-lines, etc. They were so snugly stowed away that Henry had hardly noticed them. A crew adrift in one of these boats would have food and water for some time.

The fire drill had little novelty for Henry. Too often he had seen the firemen in his native town couple their hose to a fire-plug and squirt water, to be much excited about a similar display now, though it was rather interesting to see eight streams going at one time.

The infantry drill had more attraction for him. It was not exactly a novelty, either, but it gave him a new idea of the Coast Guard men. He had not previously thought of them as soldiers. But when the quartermaster told him that in time of war the Coast Guard becomes part of the navy, he saw that marines on a battleship were no more necessary than they were on a Coast Guard cutter.

Probably Henry would have enjoyed all these exhibitions more, had he not been under the shadow of suspicion. No formal charges had been made against him, and he was not exactly a prisoner. Neither was he free to leave the boat. He hoped that the captain would soon get to the bottom of the mystery. Henry did not feel free to say anything to the chief electrician about the matter, lest the latter think that he was seeking to influence him. So he stayed away from the

radio shack. He was no longer a part of the wireless force, for the return of the chief electrician had taken his job from him.

But while Henry was disconsolately considering the matter, things were moving briskly in the wireless shack. Though he was now really sick, the chief electrician continued on duty. Alone on his watch, he was working patiently to uncover the difficulty with his grounded coil. Once more he had examined this coil thoroughly, yet he could see no external indications of impairment.

Slowly he now unwound the covering cords that formed the outer casing for the wrapped wires within. There was still nothing visibly wrong. But when he had cleared the cords away, and had gotten to the coil itself, his sharp eye detected a shining little dot, hardly bigger than a large pinhead, among the wire wrappings. With the point of his knife-blade he picked at this shining point and found it was hard, like metal. He believed he had found the difficulty.

Getting a large wooden spool, he began to unwind the copper wire from the coil, rolling it up on the empty spool as he unrolled it from the coil. Swiftly he transferred the wire from one cylinder to the other. As his coil grew thinner he saw that he had found the difficulty. The bright dot was the head of a long, thin finishing

nail. Presently it was sticking up a half inch above the winding of the coil. The chief electrician started to pull it out, then thought better of it and desisted. But even his first slight tug at the nail showed him it was pretty tight. He went on unwinding. But now he examined the wire carefully as it unrolled. In piercing the coil, the nail had cut the insulation of practically every wire it had touched. In one or two places it had even severed the wire wrapping itself. When at last the chief electrician unwrapped the last winding of the coil, the nail dropped to his desk. Its end was bent over at an angle, and the metal core was scratched where the nail had been bent sidewise. The whole thing was as plain as day now. Some one had driven the nail through the coil, finishing the job with one or two hard blows that had bent the point against the core of the coil, sinking the head far below the corded cover. The question was, who had done it.

As soon as he had made this discovery, Mr. Sharp carefully removed all traces of his work, locked the parts of the damaged coil in his private drawer, bundled himself up, and sought the captain. The nail he had in his pocket.

"I have found the trouble, Captain Hardwick," the chief electrician reported, when he was alone with the captain in the cabin. "There it

is," and he laid the bent nail before his commander.

"You look half sick, Sparks," said the latter, looking at him keenly. "Be careful of yourself."

"It's that wretched cold I got from my ducking at Cape Cod," laughed the chief electrician. "I'll be all right soon."

The captain picked up the nail and examined it curiously. "Well?" he said inquiringly.

"That was in the grounded coil," said the chief electrician. "That is what grounded it. Some one drove that nail into the coil."

The captain stared at the nail long and fixedly. "It beats me," he said at last. "You think that it was done maliciously, don't you? Is there a possibility that it might have been done in an experimental way? Now, young Harper is very ambitious and desirous of learning. Might he have been experimenting, trying to learn something, by fooling with the outfit?"

"In my opinion, Captain, whoever did this did it with perfect knowledge of what would happen. I cannot think it was done for any purpose except to put the wireless out of commission."

The captain frowned. "I fear you are right, Sparks. But who would want to put the wireless out of commission? I can think of only two reasons why any one should do that. Some one

might have it in for me or for the operator. If it weren't that young Black was asleep when this was done, I'd think he did it. You know he and Harper had some words."

"That would explain everything," said the chief radio man, "but the facts won't fit the case."

"So far as we know, not a soul was on deck except the men on watch. If some one entered the radio room while Henry was up in the chart-room with me, he would have had to be both sly and slick. He would have had to watch young Harper's every movement, and be all prepared to run in and drive this nail home. It was a terrible risk to run, for it was certain that the wireless man wouldn't be away from his key for more than a minute or two. Discovery was almost certain. The more I consider it, the more it seems to me that young Harper must have been experimenting. Did you find anything else out of its usual order?"

"Now that you speak of it, I did find some loose screws, as though some of the other instruments had been tampered with."

"I hate to think of it," replied the captain, "but it looks very much as though young Harper took advantage of his position to tinker with the instruments."

"That might be true about the other instruments, Captain, but he would certainly know

what would result from driving a nail into a field coil."

"Maybe so, maybe so, but he may not know half as much about wireless as you think. All I can do is to go according to the facts. They point to young Harper. But we shall have to have more evidence on the matter before I decide what to do. Furthermore, the situation is so very unusual that I am puzzled as to what should be done, even if I knew Harper to be the culprit. In a sense he was a regular operator. I made him one temporarily. But he is under age, and we did not have the consent of his mother to his enlistment. And finally, I should have to take into consideration the very real service he rendered us during the storm. Strictly, I suppose, he was only a volunteer that I put in charge for a time."

"I can't help feeling that the lad is innocent," urged the chief radio man. "He undoubtedly knows a lot about wireless, and no one who knows anything about it would have done what he did unless he intended to cripple the service."

"We must go by the facts, young man, not by theories," said the captain a little testily. "But let's get all the facts. Say nothing. Let no one know you have discovered the cause of the trouble. If the culprit thinks he is undiscovered, he may give himself away."

CHAPTER XVII

A SHIP IN DISTRESS

THE day succeeding that on which Mr. Sharp found the nail in the field coil was another of those cold, stormy days so typical of the fall. The heavens were gray with threatening clouds. Fitfully the wind moaned and sobbed, and there was a rawness in the atmosphere that penetrated even the warmest of woolen clothing. Everything portended the approach of a storm.

The weather itself was enough to make one gloomy. But Henry, already worried sadly by the misfortune that had befallen him, was almost sick with apprehension. If only he could have done something toward unraveling the mystery that surrounded him, time would have passed more quickly and not so dismally. But there seemed to be nothing he could do except wait.

The day's newspapers, brought aboard with the mail, told of gales raging farther along the coast, and of storm warnings posted along the entire Atlantic. Evidently another gale was sweeping the ocean. Terrible as had been the storm Henry had so recently witnessed, he felt that he would almost rejoice at an opportunity to

go out and face another. Then there would be a chance to do something, there would be an opportunity for action.

It seemed to Henry as though he simply could not endure to remain idle. Naturally he wanted to get to the bottom of the mystery of the field coil. But what he should do or what he should try to do he could not even imagine. To talk about the matter was useless. That would get him nowhere and advertise something that was known only to a few. Furthermore the captain himself was continuing his investigations, and had given strict orders not to talk about the affair.

When Henry chanced to pass the stateroom of the wireless operators, he thought he would stop and inquire how Mr. Sharp was. The latter had quite evidently been sick the preceding day, though he stuck to his post. Henry knocked at the door. A feeble voice invited him to come in. Henry entered, and found the chief electrician alone. Belford was on watch. Henry did not know where Black was. It did not matter. He saw at once that Mr. Sharp was very sick. His cheeks were flushed. Henry stepped to the bunk and laid his hand on the man's forehead. It was dry and very hot, and his eyes had that burned-out, almost plaintive look, that fever sufferers sometimes have.

"Why, Mr. Sharp," said Henry, "you're sick; you're real sick. You must have a high fever."

"I guess that I am about all in," agreed the chief electrician. "I've been taking some dope that the doctor gave me for this cold, and I thought that I could throw it off, but I guess it's got me."

"Have you reported sick to the doctor?"

"No. I thought a while ago that I had better do so, but there wasn't any one here to take a message, and I felt so rocky I just hadn't gumption enough to get up and go to the doctor myself."

"Let me call the doctor for you," urged Henry.

"All right. I'll be obliged to you."

Delighted to find something to do, Henry stepped from the room and hurried aft to the wardroom. There he found the doctor, who came at once. When the latter had taken Mr. Sharp's temperature and examined him otherwise, he said: "Sparks, it's you for the sick bay, quick. What do you mean by lying here half dead and not sending for help?"

"You can't put me in any sick bay," protested the chief electrician weakly. "I've got to go on duty shortly."

At that the doctor exploded. "Humph!" he snorted. "Duty! Yes, on a white cot! You'll

be lucky if you see the radio room again in a fortnight."

Henry saw his chance. "Let me take your turns at the key, Mr. Sharp," he begged. "I promise you nothing more shall happen to the instruments when I am on watch. I'll never leave the room for a second, after this."

When the chief electrician seemed to hesitate, Henry continued his pleading. "Mr. Sharp, you don't believe that I had anything to do with damaging that coil, do you?"

"No, I do not," said the chief electrician decisively. "And I'm perfectly willing to have you go back on duty, but I don't know what the skipper will think about it."

"Will you ask him if I may go back on duty?" begged Henry.

"Yes," murmured Mr. Sharp weakly.

Henry fairly raced for the captain's cabin and told the commander that Mr. Sharp was sick and would like to speak to him. Captain Hardwick at once went forward. Henry stepped outside the stateroom and the captain conferred with the chief electrician. The result of that talk was that Mr. Sharp, who was now suffering from pneumonia, went to the sick bay and Henry again went on duty in the wireless house.

The very first message he caught was an order from headquarters for the *Iroquois* to proceed to

sea at once and take the oil tanker *Rayolite* in tow. Henry was going to have his desire fulfilled. The cutter was to go out and once more wrestle with the ocean. The *Rayolite,* an unfinished tanker, was being towed from Nova Scotia to New York. In the storm the towing tug had deserted her, and the ship was somewhere out on the ocean, driving helplessly before the wind. Her position was given in the despatch as approximately forty-one north, seventy-one west. There were some maps in the wireless shack, so after he had sent the message to the imperiled tanker Henry looked up her position. It seemed to be almost due east of the eastern end of Long Island. The wind was east of north, so that the helpless tanker would be blown along almost parallel with the coast line. Henry was glad of that. He did not want to see any more ships piled up on the shore.

Within a very few minutes after the receipt of this message, the *Iroquois* was once more heading out to sea. Clad in thick woolen garments and oilskins, the captain stood on the bridge, conning the cutter through the channel. He was needed there. The passage, so fair and easy on a clear day, now called for the utmost caution. Lowering clouds of fog were driving in from the sea, increasing in density with every minute. Snow had begun to fall, at first coming in gusty

squalls. Then it fell steadily, the dancing flakes driven in swirling clouds before the sweeping winds. At times the snow changed to rain, and was flung in blinding sheets against the little cutter.

Cautiously the *Iroquois* nosed her way down the channel, the water becoming rougher and rougher as she approached the open sea. Looking into the swirling, blinding curtain of fog and snow, Henry did not see how the captain could possibly find his way. But with chart and compass to direct him, and his wonderful seaman's sense of direction to aid him, he took the cutter from buoy to buoy, along the channel, straight out again to the Ambrose Lightship.

With the open sea before him, the captain now confidently set the cutter upon the course he had plotted to reach, a point to leeward of the position forty-one north, seventy-one west, whither the *Rayolite* would likely have drifted. All the while wind and sea were making up, more and more tumultuously. In the wireless shack Henry tried again and again to reach the *Rayolite*. No one on board knew whether the unfinished tanker was equipped with wireless, but hour after hour, at intervals, Henry persisted in his attempt to get word from the helpless vessel. As the *Iroquois* continued on her way, the wind began to shift to the east, a fact that Henry noted

with apprehension. He had seen all that he wanted to see of raging storms that blew directly toward the shore. Regardless of wind and wave, the *Iroquois* drove on through the storm, hour after hour, until at last, as nearly as the commander could tell by dead reckoning, the cutter had attained the desired point to leeward of the position forty-one north, seventy-one west.

Long ago night had fallen. Again and again Henry had swept the stormy skies with the wireless, seeking to get some answering vibration from the *Rayolite,* but always his efforts had been futile. Now, as the cutter rolled in the seas, at the point where the captain had figured the *Rayolite* ought to be, there was neither light nor sound to suggest the presence of another ship. Tumultuous waves and driving curtains of fog and snow shut in the *Iroquois.* Again and again Henry combed the atmosphere with his flashing signals, but no answering sound returned through the night. Henry could not see how it would be humanly possible to find a ship under such circumstances in such a welter of raging water.

But nothing seemed to dismay Captain Hardwick. When he had swept the seas with his searchlight, and blown his siren again and again, without getting any response, he methodically set about finding the lost tanker, making a grid as he had done when searching for the derelict. All

night long the cutter followed the pattern of the grid, and all night long the storm grew worse, and wind and sea made up more furiously than ever. The captain was very careful to lay his course so that mostly he was either bucking the heavy seas or running before them.

Dawn brought no cessation of the storm. With undiminished fury it lashed the sea and clutched at the staunch little cutter. Nor was there any sign of the lost *Rayolite,* until young Black, standing his watch in the radio shack, caught a very faint call for help. He magnified the sound to the maximum, but was able to get nothing more. At once Henry was summoned. He threw over his switch and flashed out an answering call, asking for the vessel's name and position. His message carried true, for almost immediately came a hardly audible answer. The message was from the lost tanker. She did not know her position. She had sixteen men aboard, with no machinery, no ballast, and forty feet of freeboard. There was little food and almost no water left. She had a small radio set, operated by a small storage battery, that might carry fifty miles at most. She was wallowing fearfully and driving helpless before the storm.

Henry remained on watch while Black took the message to the captain. "Try to get a bearing with the radio compass," ordered the captain.

Black hurried to rejoin Henry. "Tell the *Rayolite* we want to get a compass bearing," said Black.

Henry turned to his key and flashed the call of the *Rayolite.* Hardly audible was the acknowledgment. "*Iroquois* wants compass bearing," telegraphed Henry. "Flash letters MO continuously several minutes. Stand by for answer."

"Will flash let ——" came the reply, so faint that Henry hardly caught the signals. The end of the message was lost altogether.

"She's gone," said Henry, aghast. Then he added: "Maybe she's only gone out of hearing. We must be heading away from her. Tell the captain."

Black rushed for the captain. Henry turned to his key. Again and again he flashed out the call of the *Rayolite,* but no answering signal came through the storm. Without turning from his instruments he knew that the *Iroquois* was changing her course. She began to roll fearfully in the trough of the sea. Henry had to cling to his desk to keep from sliding out of his chair. Once such rolling of the ship would have filled him with terror. Now he thought little of it. He was too intent on what he was doing.

For a long time they drove on through the storm. Belford relieved Black in the wireless shack. Suddenly Henry became aware that

something unusual was happening. Again he sensed the fact that the ship was turning, but this time he knew that it was different. Now the motion of the cutter was terrifying. At times she was almost on her beams' ends. Henry peered out through the windows. He noticed that life-lines had been run along the deck, to grip when passing. He had not realized how truly awful the sea had become. When he glanced over the side of the ship, his heart fairly stood still. They were almost in the breakers. Evidently the captain had been wrong in his reckoning. The cutter had almost piled up on the shoals. She was coming about, very, very slowly. Now Henry understood why she rolled so terribly. He clung to his desk and watched the sea and the boiling breakers in silence, fascinated, almost paralyzed with horror. Was the *Iroquois* going to be where the *Capitol City* had so recently been?

At last the ship was headed about, bow to the sea, but the waves had drifted her so close to the surf that every second Henry expected to feel the ship jar and pound on the sands. In the pilot house the captain stood with nerve of iron, though his cheeks had gone white, directing every movement of the *Iroquois*. The instant she was nose to the sea, he signaled for full speed ahead. The cutter drove forward, and a huge wave,

sweeping completely over her bow, tore aft along her deck, smashing and rending. The two small boats were snatched bodily from their davits and hurled far astern into the raging sea. A third was torn loose, and hung by its after-fall, swinging back and forth with the motion of the *Iroquois,* like a monster pendulum, pounding the ship's rail to pieces.

"Look!" cried Henry. "That boat will batter a hole in the side of the ship. I must tell the captain."

He dashed out of the radio house, leaving Belford on watch. Before Henry had taken two steps he realized how reckless he had been to jump out on the deck so thoughtlessly. He could not stand erect without support. Wildly he clutched for a life-line, caught it, and started for the bridge. But the captain was well aware of what had happened. Already he was making preparations to cut away the swinging boat. Sailors were issuing on deck with axes. The captain himself came down from the bridge.

"Stand back," roared the commander. "That boat's liable to tear loose and kill somebody."

Quickly a rope was tied about the body of a sailor, and cautiously he approached the swinging boat. Watching his opportunity, he swung his axe against the fall, severing it. The lifeboat dropped outboard like a plummet. An upshoot-

ing wave lifted it and flung it aft. The sailors turned to seek shelter. A cross comber broke over the side of the ship, drenching everybody. Henry alone was not in oilskins. He was soaked to the skin. Quick as thought he darted to the stateroom and grabbed up a dry jacket. He didn't know whose it was. Back in the radio shack, he drew off his own dripping coat and slipped on the borrowed garment. In the warm radio shack he knew he would soon dry out.

Steadily the *Iroquois* headed into the wind. That outlying shoal that had all but caught the *Iroquois* was the eastern tip of Long Island. Well enough the captain knew that, and now he corrected his course. Somewhere to the southeast of this point the *Rayolite* would likely be.

When he had worked far enough offshore, the captain changed his course again, heading west of south. All the while Henry was trying, from time to time, to pick up the *Rayolite* again with the wireless. For a long time he got no answer to his messages. Then came an almost inaudible reply. The *Rayolite* could hear the *Iroquois* plainly and had answered all her calls. Once more Henry instructed the *Rayolite* to sound the letters MO while the *Iroquois* tried to get a compass bearing. While Henry sat at his key, Belford made his way to the radio compass room. This was a little, squarish structure amidships.

Inside, the roof was lined with copper screening so that the body of the operator would not influence the inductance and affect the compass. The radio compass itself, a great wrapping of wire on a rectangular frame, like the four sides of a rectangular box, was mounted on a vertical metal rod, so it could be twirled round in a circle. Encircling the revolving vertical shaft was a circular plate, not unlike the steering wheel of a motor-car, upon which were marked the three hundred and sixty degrees of a circle. The compass was at zero when its windings or wire-wrapped sides were parallel with the ship. As the compass was revolved, the listening operator would hear, with varying degrees of loudness, the signal he was watching for. Now he heard the sound with maximum distinctness. Again it grew faint, and, as he twisted the compass farther around the circle, the signal once more reached its loudest pitch. The two maximum sound points the operator noted on the degree-marked circular plate. Halfway between these two maximum points, or at the point of minimum distinctness, was the desired bearing, the point whence came the desired signal. A zero bearing meant that the signal came from either dead ahead or astern.

Now young Belford carefully closed the door of the compass shack, adjusted the head-phones,

and slowly revolved the radio compass. Very indistinct was the signal from the *Rayolite*. Again and again the young operator revolved his compass, uncertain when the sound came loudest, so faint was it at all times. But finally he decided upon a bearing, and through the speaking tube called up this bearing to the quartermaster on the monkey bridge. A true compass was located on the monkey bridge. The compass in the radio shack deviated from this, so that it was necessary to correct young Belford's bearing. This the quartermaster did, and conveyed the resulting information to the captain. There was a deviation table in the radio shack that Belford could have consulted, but he had had little experience with the radio compass.

Now the *Iroquois* was headed straight in the direction indicated by the radio compass. Every fifteen minutes Henry flashed out the call of the *Rayolite* and got a reply. For some time these replies grew constantly stronger, and then became fainter, yet the ship signaled that she could hear the *Iroquois* with increasing distinctness. It was evident that the tanker's wireless was failing.

Henry went up to the bridge and told the captain. The captain considered a moment, and Henry looked about while he waited. The storm had abated not a particle. The view was still

veiled by shifting, swirling curtains of snow, but the fog had lifted. The waves were tremendous, but as the *Iroquois* was no longer bucking them, they did not seem so terrifying. Yet the sea was appalling enough to one so little accustomed to it as Henry was.

Suddenly the captain spoke. "Henry," he directed, "tell the *Rayolite* that her signals are getting weaker, and that her battery is evidently going bad. Tell her to save her battery. I'm going to fire a gun every twenty minutes. Tell her to indicate whether or not she hears it. A single word will answer."

Henry returned to the radio shack and flashed the message to the tanker. A moment later there was a terrific explosion that made him fairly jump in his chair. He began to make the sparks fly under his key. "*Iroquois* just fired gun," he flashed. "Did you hear?"

A long pause followed. Then came the faint reply, "No."

Twenty minutes later another shot was fired. Once more Henry called the *Rayolite* and asked if she had heard it. And again came the answer, "No."

Three times every hour the *Iroquois* fired a shot, but for a long time the sound of the reports did not reach the struggling ship. Meantime the day was passing fast. Late afternoon came,

and still the *Iroquois* had not found the helpless tanker. But as dusk was descending there came the joyful word from the *Rayolite,* " Heard your shot faintly."

Again the captain called for a compass bearing. This time the signals from the tanker came much more distinctly, and the captain accordingly altered his course. The first faint call had given Belford a bearing not quite correct. The *Iroquois* continued to fire her gun. Forty minutes after the course was changed the *Rayolite* reported that she heard the shot from the *Iroquois* clearly.

When Henry sought the bridge with this cheering news, the commander said, " Tell the *Rayolite* operator to set his watch with yours. At five o'clock I will fire another shot. At the same instant you are to notify him by wireless. Tell him to note how many seconds elapse between the time he gets your flash and the time he hears my gun."

Once more Henry called the *Rayolite* and explained the captain's plan. " At five exactly we will fire," concluded Henry.

Five o'clock came. Henry sat at his desk, switch thrown over, finger on his key. " Bang! " crashed the gun. Flash, went Henry's signal. Then he sat in silence, waiting almost breathlessly for the reply. Five, ten, fifteen seconds

elapsed. Half a minute went by. There was no reply. Another half minute passed and the wireless was silent. Henry looked worried.

"Do you suppose her wireless has failed altogether?" he asked Belford. Before the latter could answer, Henry's head-phones began to speak. "Sixty-five seconds difference," came the reply, both brief and faint.

When the captain received the news he did a little figuring. "Thirteen miles distant," he commented. "We ought to be up with her in a couple of hours."

The two hours passed, and no ship was visible. Still the storm raged without abatement. Night had come. For two days and a night the *Iroquois* had been searching the stormy sea for this tanker that seemed to evade her so persistently. She ought to be at hand, but nowhere could she be seen. Through the blinding storm came no sign of the fugitive vessel. No shaft of light pierced the swirling curtain of snow and mist.

Then suddenly there was the *Rayolite,* almost abreast of them, not more than three hundred yards distant. It was impossible to send a line to her. No small boat could live in such a sea. It was doubtful if a shot would carry true. The captain swung the *Iroquois* directly to windward of the tanker, and cut down his speed almost to nothing. In a moment the huge ship was almost

out of sight. With her tremendous freeboard, she drove before the gale almost as fast as the *Iroquois* could steam. The captain turned his searchlight directly on the vanishing tanker, signaled for more speed, and drove straight at her. And all night long the *Iroquois* steamed directly at the *Rayolite,* which drove furiously ahead, under the pressure of the gale. The captain left the bridge and threw himself on the cushioned seats in his cabin, to snatch some sleep. Henry, who had spent long, long hours on duty, made his way to the operators' cabin and lay down, fully dressed, in Black's bed. The latter and Belford were to watch through the night, with Henry subject to call, if messages had to be sent. He was so worn out that he did not even remove his coat, the jacket he had snatched from the wardrobe after his wetting.

Daylight saw no cessation of the wind, though the snow had ceased to fall, and no longer was the face of the deep clouded with mist. When the captain came on deck again, after a few hours' rest, he pushed the cutter straight at the *Rayolite* until she was close behind her. Meantime he had sent a wireless to the tanker, telling her to watch for a line. Now the little brass gun was brought to the cutter's forward rail, and that sturdy little craft was pushed still nearer the tanker, which was driving ahead, broadside to. At a favorable

moment the shot was fired, the slender shot-line went hurtling squarely over the centre of the huge tanker, and the men on her seized it and began to draw it home. A heavier line was bent to it, and soon the end of this had been pulled aboard the *Rayolite*. Meantime a heavy towing hawser had been passed out through a stern chock of the *Iroquois,* and the bight of it brought forward, outside of the rail, where it was stopped up or tied with little stops or small ropes. This was to keep the hawser from fouling the propeller, when the cutter should swing around, stern to her tow. Then the hawser was rove round the cutter's forward bitts. Through Henry the commander now sent a message to the *Rayolite*.

"Take hawser in through your forward chock and make it fast around your foremast," telegraphed Henry.

The men on the *Rayolite* bent to their task and soon pulled the great hawser aboard. They made it fast to the mast.

"Everything ready," came the message to Henry from the *Rayolite*.

The captain signaled for more speed. The *Iroquois* was pushed ahead to get slack. Then the bight of the hawser was cast off the bitts, and the speed of the cutter lessened. Gradually the hawser grew taut. It stretched as tight as a

fiddle-string. Then slowly the giant tanker, pressed by the wind, began to turn. The hawser, led through her forward chock, held her bow fast. The wind drove her stern round until she was head to the *Iroquois*. In another moment the *Iroquois* herself began to swing. With a startling snap one of the slender stops that held the hawser to the rail parted. Another broke under the strain. The cutter swung further around. One stop after another parted. Finally the *Iroquois* lay stern to her tow, the hawser taut between them, with no danger of its fouling the propeller.

In turning, the little cutter lay for a moment in the trough of the sea. She rolled alarmingly. At her first pitch Henry's chair went sliding across the floor, and pads and pencils flew from the desk. At the same instant a message from the *Rayolite* began to sound in the lad's ear. He could not reach his fallen pencils. Instinctively he reached in the pocket of the jacket he was wearing. He found a mass of trash and drew it forth, hoping to find a pencil. There were strings, matches, cigarette papers, bits of chalk, and other articles. Among the mass shone two slender little cylinders of metal that made Henry's heart fairly stop beating. They were two slender finishing nails.

CHAPTER XVIII

A CLUE TO THE CULPRIT

WITH the call of the *Rayolite* sounding in his ears, Henry had to leave the nails for later consideration. He swept all the mass of stuff back into his pocket and turned to his key. When he had taken the message, he sent it up to the captain by a sailor. That done, he stripped off the coat and searched it thoroughly. But nothing else of interest was to be found. The coat was one of those dark blue sailor jackets. There were dozens exactly like it on the *Iroquois*. No name or identifying initials could be found in it. Henry was not really sure whose coat it was. Both Black and Belford had been wearing heavy sweaters. The coat might belong to either. It might even be Mr. Sharp's coat. Henry had grabbed it out of the wardrobe when his own had got wet, with little thought as to who owned it.

Presently Belford came on duty. "I'm much obliged for the loan of your coat," said Henry. "I grabbed it and pulled it on yesterday after I got wet, without stopping to ask your permission."

Belford looked at the coat a moment, then

looked inside. "It's not my coat," he observed. "I have my initials sewed in mine. But you'd be welcome to it if it were mine."

Henry drew a deep sigh of relief. "So it's not yours, eh? Then whose is it?"

"That's Black's, I'm sure."

"I think I'll get a breath of fresh air," said Henry.

"That won't be difficult. It's blowing a streak, but nothing like it did yesterday."

Henry left the radio shack and made his way to the bridge. "Captain Hardwick," he said, "when you find it convenient, I'd like to talk to you privately."

The captain looked at Henry sharply. "Come to my cabin at noon," he said.

All the morning long the commander remained at his post on the bridge. The storm was easing up, but the high seas made the towing of the *Rayolite* difficult. Too much strain on the towing hawser would cause it to part. With too little tension, the *Rayolite* was harder to handle. The captain, with his long experience, knew that he dare not relax his vigilance for a moment, but when mess gear was piped, he turned the control of the cutter over to Lieutenant Hill with a few words of caution, and made his way to his cabin.

Impatiently Henry had been waiting for this move, and hardly had Captain Hardwick reached

his quarters before the lad was knocking at his door.

"Well, Henry," smiled the commander as the young wireless operator entered the cabin, "what can I do for you?"

"Do you see this jacket?" asked Henry, with feverish eagerness, pulling off the garment in question. "When I got wet yesterday while that small boat was being cut loose, I ran into the stateroom and grabbed this coat out of the wardrobe. I put it on in place of my own wet one. This morning I got to feeling around in the pocket in search of a pencil and this is what I found."

From the pocket Henry drew out the entire mass of rubbish and dumped it on the captain's table. Then he sorted out the two finishing nails and handed them to the captain. "They looked to me exactly like the nail Mr. Sharp found in the damaged field coil," explained Henry.

The commander examined the nails with interest. Unlocking a drawer in his desk, he drew out the nail Mr. Sharp had given him and laid it beside the others. The three were identical, though of course the one was bent.

"Whose coat is that?" demanded Captain Hardwick.

"I can't say for sure, sir, but I think it's Black's. Belford says it is."

"I thought I gave orders not to say anything about this matter," said the captain severely, an angry frown wrinkling his forehead.

"I haven't been talking about it. I merely asked Mr. Belford if the coat was his. I didn't tell him about the nails."

"Who was with you when you found the nails?"

"Nobody, sir."

"Nobody! Then how do I know that you really found them in the coat? What was to prevent you from putting them in the coat yourself and then bringing it to me, to throw suspicion on Black?"

Poor Henry! For a moment he looked heartbroken. Then he became indignant. "Captain Hardwick," he cried, "do you think I would do a trick like that?"

"It doesn't matter what I think," replied the commander. "The fact that you found two finishing nails in Black's coat doesn't prove anything. There may be a dozen other coats on this ship with similar nails in them. Don't you see that it is one thing to assert something and quite another to prove it? This is likely Black's coat, though you haven't proved even that. But it doesn't follow that Black put the nails in his coat. Somebody else may have done it, even if you didn't."

"Captain Hardwick," protested Henry, "don't you trust me at all?"

The captain smiled. "It isn't a matter of trust, Henry. You come to me with something you regard as evidence against Black. I'm glad to have any evidence in the matter that *is* evidence, but we must be sure that it is, before we use it. Don't you understand what I am driving at?"

"I see," said Henry, drawing a breath of relief. "The finding of these nails isn't proof of anything. I grasp that all right. But it's—suggestive."

"Now you are on exactly the right tack. It's very suggestive. You think that I've been a little hard on you, Henry. I want to be fair. Now I'll say that I think it much more likely that Black would have had nails in his coat than that you would have had them about you. Boys dressed to go visiting don't ordinarily carry nails with them."

Henry's face evidently showed the relief he felt. The captain smiled again. "It was quite right for you to bring me this coat," he continued. "I shall follow up this suggestion. Meantime I want you to go on about your work and say nothing about the matter."

Henry thanked the commander and withdrew from the cabin. Hardly had he left before the

captain punched his call-bell and sent Rollin to summon the quartermaster. The latter was the captain's prime favorite and right-hand man among the non-commissioned officers.

"Quartermaster," said the commander when his helper appeared, "immediately after I go back to the bridge, I want you to slip into the wireless stateroom without being observed, and search the place. Keep your eyes open, especially for nails like this," and the commander held out the two nails Henry had given him. "Look in all the nooks and corners, the bunks, and elsewhere, and notice anything out of the ordinary that you find. Above all, as you value your job, don't say a word about this to any one."

When Captain Hardwick passed to the bridge, he poked his head into the radio shack. "Belford," he said, "I want you in the chart-room. And I want you, Black, to stick close to your instruments. Don't leave them for a second. The *Rayolite* may be signaling us at any time, and it's important to catch her message instantly. The hawser is likely to part at any moment if we aren't careful. Harper is to stand watch with you."

Belford followed his commander up to the chart-room, where he was put to work erasing lines from some old charts. The quartermaster promptly seized his opportunity to slip into the

stateroom, where he locked the door, hung a cloth over the window, and got to work. For more than an hour he searched everywhere and found nothing out of the way. But when he got to work in the bunks, he found, tucked securely away under the top mattress, a peculiar little hammer. He put the room to rights again, uncovered the window-pane, picked up the hammer, and, concealing it in the palm of his hand, stepped out on deck.

He found himself face to face with the ship's carpenter. A sudden lurch of the ship threw them together. Laughing, each grasped the other. As well as he could the quartermaster kept his fingers closed over the hammer-head, but the quick eyes of the carpenter saw the protruding ends of it.

"So you're the fellow who borrowed that, are you?" he said. "I've been hunting all over for that hammer. Why didn't you tell me you had borrowed it?"

For a moment the quartermaster was at a loss. He knew not what to say. Then he asked the carpenter to come with him to the captain.

"Captain," said the quartermaster, when they had mounted to the bridge, "I have some things I would like to tell you. The carpenter here can help explain them."

The captain stepped to the chart-room and dis-

missed Belford, who at once departed. Then the captain, the quartermaster, and the carpenter stepped into the chart-room and closed the doors.

"I found this hammer under the mattress of the top bunk in the wireless men's room," explained the quartermaster. "Black sleeps in that bunk. As I came out on deck I bumped into the carpenter, here. I thought that I had the hammer concealed, but he caught sight of it in my closed fist. It seems he has been looking for this very hammer for some days. It belongs in his tool kit."

"When and how did you lose your hammer?" asked the commander.

"I was using it last Thursday. When evening mess gear was piped, I had not quite finished the job I was doing, and I left it lying with my work while I ate my supper. When I went back to finish the job, the hammer was missing."

"Where were you at work?"

"Close to the stairway where the men come down from deck, sir. I pushed my work to one side, where it would not be in the way, and stepped to the table. I wasn't away from it half an hour."

"The hammer was where any one could get it easily, was it?"

"Yes, sir. It was just beside the stairway. Any one going up or down the stairs could have

seen it, and it was necessary to take only a step to one side of the stairway to reach it. Any one going up the steps from supper could have picked it up easily without being noticed."

"What were you doing with the hammer?"

"I was making a case for the executive officer, sir. He wanted a case with pigeonholes to hold some of his account books."

"Then you were using small nails to fasten in the partitions with, I take it."

"Yes, sir, some long, thin, finishing nails. They were like these, sir." And the carpenter thrust his hand into his pocket, drew forth an assortment of nails, and fished out a finishing nail that was the duplicate of those Henry had so recently found.

"Give it to me," directed the captain.

"It looks to me," continued the commander, after the carpenter had handed him the nail, "as though some one coming up to the deck after eating must have picked up your hammer and perhaps some nails with it."

"I can't say about the nails,—they were scattered about on the case,—but there is no doubt some one got the hammer."

"It looks as though young Black got it," said the quartermaster.

The captain dismissed the two men. "I don't want a word said about this," he warned them.

" Be very careful that you do not mention it to any one."

The moment he was alone the captain turned to a calendar. " Last Thursday," he muttered to himself, " was the day we got back to New York from Boston. Henry was on duty in the wireless house every minute that evening. I don't know that he even got any supper. I must find out what Black was doing at that hour. I guess the best way to do it is through the quartermaster."

Again the quartermaster was called and instructed to find out from the third-class wireless man, without arousing the latter's suspicions, at what time he ate his supper on the preceding Thursday evening. That was not a difficult thing to do. Later in the day the quartermaster engaged young Black in conversation and turned the talk to the events of their run from Boston.

" You missed your supper the night we got in, didn't you? " asked the quartermaster.

" Not on your life," said Black. " You don't catch me missing anything like that. I was one of the first fellows at the table."

" I'll bet I'll be one of the first there this noon," said the quartermaster. " I'm hungry enough to eat a bear."

He said good-bye to Black and reported to Captain Hardwick. When the commander was

alone, he said to himself: "The trail grows warm. Black went to supper at the first pipe of the whistle. He likely finished before the others, and went out. Nails and hammer lay invitingly beside the stairway. Unobserved, he snatched up the hammer and some nails, and thrust them into his coat. A little later a nail of that same kind got into the wireless outfit. Later still, nails and hammer are found in Black's possession, or, what amounts to the same thing."

The captain frowned. "But Black was asleep when that nail got into the wireless," he commented. He pondered a moment. "By George! I wonder if he *was* asleep," he exclaimed. "Everything hinges on that. How am I going to find out?"

CHAPTER XIX

THE CULPRIT DISCOVERED

NIGHT had come before the captain left the bridge. As he paced back and forth he turned over in his mind the problem of the finishing nail. Black could not have driven the nail into the field coil if he was really asleep at the time he was believed to have been. Was Black asleep or not? How was he ever to discover? Again and again the commander of the *Iroquois* asked himself that question, as he moved about the bridge. He could see no way to solve the problem.

Gradually the wind fell, and with its fall the sea grew less violent. The cloud rack thinned. Vigilantly the captain watched the sky. Finally what he was looking for appeared. The clouds parted for a space, revealing the purple vault of heaven, studded with shining stars. Quickly he seized his instruments and ascertained his position. Now he knew exactly where the *Iroquois* was. The position of the cutter was but little different from that in which his dead reckoning put her. The captain rectified his position on

the chart, and then, vastly relieved, he turned the cutter over to Lieutenant Hill and went to his cabin. The *Rayolite* was towing securely, wind and sea were growing calmer with every hour, and the cutter's position was known exactly. He had done a hard job and done it well. No wonder the commander was gratified.

If only he could handle the other problem as satisfactorily. But how? That was the question he asked himself over and over. Rollin brought the commander food. When he had eaten, Captain Hardwick got out the three finishing nails. He sat looking at them for a while, his brow wrinkled in deep thought. "If Sparks is fit to be seen," he said to himself, "I ought to show him these. He might be able to suggest some course of action that would help."

Captain Hardwick arose and went forward to the sick bay. He met the surgeon at the door. "How's Mr. Sharp?" asked the commander.

"He's pretty sick, Captain, but I think he'll pull through all right. He's got a fine constitution and is tough as nails. But we'll have to take care of him."

The captain seemed to hesitate. "I—I suppose it wouldn't do to talk to him?" he asked.

"Well, that would depend. It would hardly do any harm to talk to him a moment and wish him a quick recovery. It wouldn't be wise to

talk to him, though, if your conversation would excite him."

"I suppose it wouldn't do," said the captain regretfully. "Yet I wanted very much to talk to him."

"I don't want to be inquisitive, Captain, but perhaps if you could give me an idea of what you want to say to him, I could judge if it would be best. Perhaps, though, it is a private matter."

"No, it isn't, Doctor. It's a matter that concerns us all. You are one of my official family, and I may as well tell you. Only please do not talk about it."

"Of course I wouldn't repeat what you say, Captain, but don't tell me unless you wish to do so."

"You recall that we had a little difficulty with the wireless the evening we got back to New York from Boston, don't you, Doctor?"

"Yes. That was the evening Sparks, here, got back aboard. I heard something had gone wrong. But the chief electrician soon fixed it up, I was told. I supposed that it didn't amount to anything."

"In a way, it didn't. In another way, it was a very serious affair."

"So?" queried the doctor.

"Yes. The difficulty was merely a grounded coil in the field. But the coil had been grounded

purposely, and grounded by some one on this ship." The surgeon was all attention. "We were just coming up the channel and about to drop anchor. It was early evening—seven o'clock, to be exact. Young Harper was on watch. He received a message for me, and, leaving the wireless shack, he ran up to the bridge to me. I read the message, wrote a reply, and Henry ran back to his key. A little later he came charging back, to say that his wireless wouldn't work. I sent for the other wireless men. Belford was talking to the quartermaster beside the wheel-house. Black was fast asleep in his bunk. But Sharp came aboard in a few moments, found the trouble, and fixed the outfit up."

"That is what I had understood," remarked the doctor.

"Next day," continued the captain, "Mr. Sharp found out what had grounded the defective coil. It was this." And the commander held out the bent finishing nail. "Some one had driven that nail into the coil in those few minutes that Henry was up in the chart-room with me."

"Can it be possible!" cried the doctor, amazed.

"I regret to say it is. What is more, Henry pulled on a coat of Black's after his ducking yesterday, and this morning he found these in the pocket of that coat."

"You don't mean it!" exclaimed the surgeon.

"And what's still more," continued the captain, "my quartermaster found a hammer in Black's bunk, that the carpenter says was stolen at supper time of the evening we anchored—just a few minutes before the coil was ruined. The hammer was lying, with nails like these, on the carpenter's work at the foot of the stairs leading to the mess-table. Furthermore, Black and Harper had words, and Black threatened to fix Harper for reporting him to me. The thing leads to Black as straight as a string. But there's one weak link in the chain of evidence: Black was asleep at the time this was done."

"When did you say it happened?"

"At seven o'clock in the evening, just as we were coming to anchor."

The surgeon was silent a moment, lost in thought. Then suddenly he spoke. "I remember it all very well. We were, as you say, just coming to anchor. I recall it because I had been sent for to look after one of the sailors who had crushed a finger while working with the anchor-chain. I remember distinctly that the first thing I heard, when I put my head out of the companionway, was the ship's bell. It was exactly seven o'clock."

"That's exactly the instant Henry was scampering up the ladder to me," said the captain.

"I hurried forward," continued the surgeon. "A few seconds later I reached the radio shack. A dark figure came tearing around the rear of that structure and almost bumped into me. The fellow saw me and drew back. I passed on. The fellow went into the radio room, for I distinctly heard the door slam after I passed. He was evidently in too much of a hurry to shut it quietly."

The surgeon paused. "The fellow!" cried the captain. "Who was he? Have you any idea?"

"I certainly have. Although it was perfectly dark out on deck, I saw the man's face clearly outlined against a light. It was Black."

CHAPTER XX

HENRY'S EXONERATION

WITH such a line of evidence against Black, the outcome of the court-martial that quickly followed was a certainty. Black was convicted, dishonorably discharged from the Coast Guard service, sentenced to serve a prison term, and thrust into the brig, after being stripped of his uniform.

Quite as naturally Henry was appointed to fill his place. The appointment, however, could not become really effective until Henry should receive his mother's permission to enlist. He had no doubt her consent would be forthcoming. He had already written to obtain it, and was expecting a reply soon. Everybody on board seemed genuinely glad when Henry was completely exonerated, and nobody was more pleased than Captain Hardwick. He had come to like the lad immensely.

"Henry," he said, "I never had more satisfaction in appointing any one to a position under my command than I have in appointing you. If you continue to be as faithful as you have been so far, there won't be any question, when your probationary three months are up, about your

confirmation as a permanent member of my wireless staff. With Mr. Sharp and Mr. Belford and you, I shall have one of the best wireless staffs in the service."

Nor was Mr. Sharp or Belford one whit less pleased with the change in the wireless staff. Neither of them had ever liked the third-class radio man. When Mr. Sharp shook Henry's hand in congratulation, Henry said, "Mr. Sharp, I want you to teach me everything there is to know about wireless."

The chief electrician laughed. "I can't do that, Henry," he smiled. "I don't know everything myself. But I'll be glad to teach you all I do know. With two such students as you and Jimmy, I'll have to hustle to keep ahead of you."

Even the weather seemed to rejoice with Henry, for the clouds disappeared, the sun came out clear, and the day following the rescue of the *Rayolite* was one of rare beauty. The *Iroquois* was able to quicken her speed and bring her tow into New York Harbor before darkness again fell.

As the cutter steamed up the channel, Henry got into touch with Roy and flashed him the joyful news that the mystery of the field coil had been solved, and that he himself had been exonerated and permanently appointed third member of the radio staff.

There were more good things in store for Henry. Next day the mail boy brought him two letters. One was from Willie, regretting his unforeseen absence from New York and announcing his speedy return; and the other was from Henry's mother, giving her consent to his enlistment as a Coast Guard wireless man.

Henry took his mother's letter to Captain Hardwick. The captain smiled with satisfaction as he read it. "That settles the matter for sure," he said. "This communication makes your appointment effective, and you are now a regularly appointed member of my staff. My congratulations, Sparks!"

Henry took the proffered hand. "It will be a great day for me, Captain," he said, "when I am a real Sparks like Mr. Sharp. I intend to be. I'm going to study hard and climb up."

"Your appointment is a probationary one, you understand," said the commander. "But I haven't the least doubt that at the end of three months I shall be able to confirm it."

"I'll do all I possibly can to deserve such confirmation," said Henry stoutly. "We wireless men want to help you all we can, Captain."

"I wish you could help me catch some dope smugglers that have been bothering the custom officials here for a long time," sighed the captain. "But I don't know how you could do it. These

fellows have been bringing opium into this port for months from Central America, and we can't touch them. Yet we are absolutely certain they are doing it. I just got another letter this morning from the commandant of this district, urging me to increase my vigilance."

"Who are the fellows that bring in the opium, and how do they do it?" asked Henry.

"The most notorious outfit is the steamer *Orient,* that plies between New York and Panama."

"How do you know she brings in opium?" asked Henry.

"Well, we don't really know it. We know the stuff gets in, and we know it comes from Panama by ship. The captain of the *Orient* has a shady reputation and associates with men known to be dope handlers. He never loses any of his crew, and that is suspicious in itself."

"I don't understand," said Henry.

"Oh, sailors go from boat to boat. They are a roving lot, and it is seldom that a ship's master can keep the same crew any length of time. But there's something so attractive about service on the *Orient* that men seldom leave her. It isn't because of the high tone of life aboard, either, for they're a rummy lot on that ship. We figure they are all in on the opium business, and that the captain lets them share in the profits. That's

the only explanation we can see for the situation."

"Why don't you stop the *Orient* before she gets into the harbor and search her?" asked Henry.

"We would do that, but her master is foxy. He has a habit of appearing in the harbor hours before he is expected. He's here before we know he's anywhere near New York. There's no use searching him after he's in the harbor, for he probably passes his stuff out to fishermen or boatmen before he reaches the Narrows. Likely he drops it overboard, with buoys to mark it, so his confederates can go out in small boats and pick it up. We figure he must do it this way, for the custom guards have watched his ship at her pier as a cat watches a mouse-hole, and they can never get a thing that is suspicious."

"Why don't you get a compass bearing on the *Orient* while she is at sea?" asked Henry. "Then you could steam out and intercept her."

"Sounds easy, but she won't answer radio calls. That's another suspicious thing about her. When she does give her position, as she sometimes does to her owners, we have found that she almost always gives a false one. She's nearer port by a good deal than she says she is. We've tried lots of times to intercept her, and that's the way she fools us. If we had nothing else to do

but catch the *Orient,* of course we'd get her. But you've seen enough in your brief stay aboard the *Iroquois* to know that the Coast Guard is a pretty busy organization. We don't have the time necessary to devote to a little matter like this. Yet this smuggling ought to be stopped."

Henry was all afire with the problem of helping his captain catch the crooked commander of the *Orient.* He could think of nothing else all that day. Finally an idea popped into his head. "Captain Hardwick," he said, as soon as he could find the commander, "wouldn't the Navy Yard wireless help us out?"

"Help us out? What do you mean?"

"Why, to catch the *Orient,* to be sure."

The commander laughed. "Are you still thinking about that?" he said.

"Of course I'm thinking about it. You said you wanted help."

"Well, bless my stars!" cried the commander. "Let's hear all about it. How is the Navy Yard wireless to help us catch the *Orient?"* He was laughing good-naturedly, but he began to look interested as Henry unfolded his plan.

"Why couldn't the Navy Yard sound the *Orient's* call and keep on sending at intervals, whether she answered or not?"

"Doubtless the Navy Yard could, but what good would it do?"

"Why, sooner or later curiosity would get the better of the *Orient's* operator and he'd answer."

"By George! He might. And what then?"

"Ask him some question that he would be likely to answer."

"What, for instance?"

"Well, if you asked if the *Orient* had seen anything of some long-overdue steamer that sails the same waters the *Orient* does, wouldn't he answer that? There is certainly nothing in such a request that would arouse suspicion."

"That might work," said the captain thoughtfully. "It's a thing that's often done. And the Navy Yard could call other boats far away from the *Orient* and ask the same question. That would make it even less suspicious. Yes, I believe that would work. The question is, Are there any boats that sail to southern waters that are now overdue?" The captain paused in thought. "I believe there are two," he continued. "If we got the *Orient,* we could ask her position. It wouldn't matter whether she gave it correctly or not. It would keep her wireless going and give us more time to get a good compass bearing. I believe we'll try it."

The captain got into his launch and went ashore. He was gone a long time. When he returned, he called Henry to his cabin. "We're

going to try your plan," he said. "The Navy will call the *Orient,* and, if an answer is received, will get a compass bearing and let us know where the ship is and when she will arrive at Ambrose Lightship. We can meet her and search her. You will likely hear the Navy Yard call the *Orient* if you keep your ears open."

Henry informed his fellow-watchers in the radio shack as to what was afoot, and an element of interest was added to their watches. Also he asked Mr. Sharp if he might try for a compass bearing himself, in case the *Orient* was heard. "I've already used a radio compass," said Henry. "They had one at Frankfort, but that was a long time ago, and that instrument would now be considered antiquated." The chief radio man was pleased to have so eager a pupil, and instructed Henry in all the principles of the latest radio compass, such as the one on the *Iroquois.*

By good luck Henry himself was on duty and caught the very first call for the *Orient.* "WND —de—NAH," signaled the operator at the Navy Yard.

But there was no reply. Again and again the watchers on the *Iroquois* heard the call of the *Orient* flung out by the operator in the Navy Yard. Finally the ruse succeeded. The *Orient's* operator could stand it no longer. He answered the call. When he did, Henry flew to the com-

pass shack, while Belford kept the watch. Again and again, as the Navy men talked to the *Orient,* Henry revolved his compass until he was certain he had the ship's position, which he plotted on the map in the radio room. The *Orient* had also given her position. This time Henry saw she had told the truth. The position she gave agreed with that which he had caught on the radio compass. Evidently she didn't care to play crooked with the Navy Yard. Eagerly Henry waited to see what the Navy Yard operator would report. His report, of course, would have to come by telephone. It would never have done to send it by wireless, lest the *Orient* might hear as well as the *Iroquois.* The captain sent Lieutenant Hill ashore to receive this telephone communication. When, finally, Henry learned what the Navy Yard operator had to report, he found that his own compass bearing agreed almost exactly with it. He was delighted that he had been so accurate.

According to the calculations from the Navy Yard, the *Orient* could not possibly arrive at the Ambrose Lightship before daybreak, but Captain Hardwick was not willing to take any chances with a man he knew to be as slippery as the commander of the *Orient.* Accordingly he got the custom inspectors who were to accompany him, dropped down the Bay during the night,

and lay at anchor near the lightship, waiting for the opium carrier.

Daybreak found the *Orient,* true to her reckoning, approaching the *Iroquois.* The latter signaled to her to stop. Promptly the *Orient* hove to, and Captain Hardwick sent two small boats, containing the half dozen custom inspectors and a dozen of his own crew, to search the southern freighter from stem to stern.

The commander of the *Orient* was plainly taken aback. Before he fully realized what was happening, the boarding parties from the *Iroquois* were swarming up the *Orient's* ladder. Like oil on water, they spread to all parts of the ship, before the crew could make a move to conceal anything. Captain Hardwick knew what he was about when he sent twice as many of his tars aboard as there were custom inspectors. The able seamen made a dive for the forecastle and began a systematic search of the sailors' living quarters. Some of the custom inspectors sealed up the cargo holds, so these could be inspected leisurely at the dock later on, while others were examining the quarters aft. It was soon evident that the search would require much time, so the workers settled down with grim persistence, while the crew of the *Orient* passed jokes at their expense and went as far as they dared in taunting the unsuccessful searchers.

On the *Iroquois,* meanwhile, time passed slowly. There was nothing for the sailors to do but sit about and wait for the return of their comrades. In the radio house both Belford and Harper were trying to possess themselves in patience. They sat with their feet up on the desk, talking, with the wireless coupled up to the loud speaker. Whenever a message sounded, they paused in their talk to listen.

"Just hear that. You might think it came from next door," said Henry, as a sudden signal fairly burst from the loud speaker. "Only that isn't the *Orient's* call."

OIN was calling RET. "They're queer calls," commented Belford. "I never heard either before."

RET answered OIN almost immediately, and in another instant the message was booming in the loud speaker. Belford copied it as it came. "No fish to-day. Held up by sharks. All safe aloft."

"Well, that's a queer message," said Henry. "Some fishermen with a wireless outfit, I suppose, telling a customer he has nothing for him. Probably been out in a gale, and escaped damage to his top-hamper. I can't understand about the sharks, though. They might scare away the fish, but I don't see how they could hold up a boat."

They resumed their conversation. Time

passed. After some hours one of the small boats returned from the *Orient,* with some of the sailors. The remainder, and the custom officials, were still aboard. It had been decided to proceed to New York without further loss of time. The search would continue during the run, and the sealed cargo holds could be examined at the pier.

Slowly the *Orient* got under way and headed for the harbor, convoyed by the *Iroquois.* When they were halfway up the channel, the two lads in the radio shack paused again to listen to another message from the loud speaker. RET was calling OIN, and the signal sounded weak and far away, but when OIN replied, the signals fairly screeched from the loud speaker.

"By George!" cried Henry. "That OIN must be mighty close at hand. The call could hardly be louder if it came from the *Orient* here. I'm curious to know where it does come from."

When RET began sending, Belford again wrote down the message. "Put fish in trap when leaving port. Glad top-hamper safe."

"Jiminy crickets!" said Belford. "That's a funny one. OIN says he has no fish for RET, and RET turns around and tells him to put the fish in the trap when he leaves port. That doesn't sound sensible to me."

He shoved the scraps of paper bearing the

messages over to Henry. Jimmy had written the messages close together, like this:

RET de OIN: "No fish to-day. Held up by sharks. All safe aloft."
OIN de RET: "Put fish in trap when leaving port. Glad top-hamper safe."

Henry looked at the sheet of paper lazily for a moment. Then he almost sprang out of his chair. "Look, Jimmy!" he cried. "See how the letters of those two calls combine." He pointed to the signals his companion had written down at the commencement of each line. "If you begin with O, then jump up to R, and keep on moving from bottom line to top, you get the word 'Orient.' I believe we've caught something important."

Belford pulled the paper toward himself and studied the riddle. "Jiminy crickets!" he cried. "You're right, Henry. What do you suppose it all means? I thought from the first that there was something queer about those calls."

"Well," replied Henry, "it is perfectly evident that OIN must be mighty close at hand, the way her signal comes cracking in. That's just the way a signal would sound from the *Orient*. And RET is either very far away, or else has a weak little set. Inasmuch as we are

going into port and the message seems to be to a customer, I'd guess that the customer has a weak little outfit—probably a home-made affair run by dry cells. But what all this stuff about fish and sharks means, I can't guess."

"Do you suppose we ought to bother the captain with it?"

"It won't do any harm. If this message was from the *Orient,* it has some hidden meaning, and of course the captain ought to know about it."

"Suppose you take it to him, Henry."

Henry grabbed up the sheet of paper and went to the captain. "Bless my stars!" ejaculated the captain, when he had read the two messages. "This is as good as a Sunday newspaper puzzle. And it's about as easy to guess. Fish would mean opium, of course; and if sharks are the things that held back the opium, I reckon either we or the custom men are the sharks. Maybe they meant Sparks, eh?" And the captain laughed merrily at Henry.

"Maybe Sparks will stop them, after all," grinned Henry.

"Let's turn it into plain English," continued the captain. "'We cannot deliver any opium to you to-day because the custom officials have grabbed us. Everything is safe aloft.' Now why should he tell his customer that his rigging

is still all right? What has that to do with it?"

"I don't know, Captain, unless it has something to do with the opium."

"By George!" cried the commander. "Let's put it that way. We'll read the message all over again. 'We cannot deliver you any opium today because the custom officials have grabbed us. But the stuff is safe aloft.'"

"Do you suppose it means that?" cried Henry, much excited.

"You can guess as well as I can. Now let's go on with this thing. What does the answer say? Let's see." The captain bent over the paper again and read, "'Put fish in trap when leaving port. Glad top-hamper is safe.'" He paused and chuckled. "Plain as day, isn't it, Henry? 'Put your opium in the trap when you leave the harbor. We're glad your opium is safe.' If we haven't guessed their little riddle, I'll eat my hat. Come on, we'll see whether we are right or not."

The commander went on deck. Jimmy flashed an order for the *Orient* to heave to again. A small boat was lowered and in a few moments the commander of the cutter stood on the deck of the freighter. The searchers looked grim. The *Orient's* crew were grinning.

"What success?" asked the captain.

" None," said the leader of the custom officials.

Captain Hardwick removed his cap and began to scan the top-hamper of the *Orient*. He saw that the forward crow's-nest was unusually large and commodious. He called two of his sailors. " Boys," he cried, " skip up the rigging and take a look in those crow's-nests. Make sure there are no false bottoms in them."

The crew of the *Orient* lost their grins, as the sailors from the cutter hustled up the rigging. " Nothing here," called down the sailor who had mounted to the after crow's-nest. The man on the forward mast did not answer so promptly. He was measuring with eye and arm the inner and outer dimensions of the big crow's-nest. Suddenly his eye caught sight of a nail, bent like a hook, that projected above the flooring at one edge of the crow's-nest. He crooked a finger under it and pulled. The whole floor came up. Beneath it, packed tightly together, were enough cans of opium to fill several suit-cases.

" The stuff is here, Captain," called the sailor.

CHAPTER XXI

AMONG THE ICEBERGS

AFTER the discovery of the opium, Captain Hardwick took his sailors back to the *Iroquois,* along with the confiscated drug, leaving the custom inspectors aboard the *Orient,* to search the sealed cargo holds at the pier. Off Staten Island the *Iroquois* dropped behind the freighter and was soon swinging once more at her anchor.

For some time she lay there undisturbed. The seas were calm and no emergency calls came to the little cutter. Henry was delighted at that, for Willie had returned, and the two boys and Roy now were able to see each other frequently. At any of his four-hour periods off duty Henry was free to slip over to Manhattan, and so cordial was the feeling now existing among the wireless men on the *Iroquois,* that either Jimmy Belford or the chief electrician was willing enough to work overtime on occasion to give Henry a bit more freedom. They knew well enough that he would gladly reciprocate when need arose. Many a night now saw the three boys from Central City happy together in the snug wireless

cabin of the *Lycoming*. It was, indeed, a great joy to them to be so near one another.

Winter came, and with it winter cruising. For periods of a week or ten days the *Iroquois* and her sister cutters cruised on the open sea, some patrolling along the shores to prevent the landing of alcoholic drink, some standing off dangerous coasts, to be on hand should vessels become endangered. No unusual storms arose that winter, but all the time it was boisterous out on the ocean, for the winds never ceased, and the sea was in perpetual turmoil.

Christmas found Henry thus at sea. For him it was a memorable Christmas, too, because it was the first one he had ever spent away from home. He felt a bit blue about it, but fought down the touch of homesickness that came to him. Perhaps the sea helped him to do that. On this particular day the ocean was tremendously rough. The cutter had worked far to the northward, and all day long had pitched about as Henry had never seen her pitch before. The cooks had prepared a goodly Christmas dinner, but it could not be served at the table. Instead it was passed out in chunks, to be eaten from one hand, while with the other hand each man clung to anything that offered support. The sea was so rough one could hardly stand without a prop.

It was a foretaste of what was to come in the

following spring, when the *Iroquois* went to the Grand Banks, on ice patrol. When the great ice fields of the frozen north disintegrate, and huge icebergs float south, passing through the steamer lanes, and so endangering steamship traffic, it was part of the work of the Coast Guard to protect shipping from these menacing mountains of ice. One *Titanic* disaster was enough for the world.

When it came time for the *Iroquois* to relieve the *Oneida* in the ice fields, the ship was made ready and the long voyage begun. At Halifax the cutter touched to refill her water tanks and renew her stores. Then she headed northeast into the region of fog and storm and tremendous moving mountains of ice.

As long as he lives, Henry will never forget that journey through the tossing, fog-shrouded sea. For days on end the sun had not shone. No stars were visible at night. The dull gray sea and the dull gray clouds, with the thick shrouded mists, lent a leaden tone to life which was like nothing Henry had ever known. Onward, league after league, day after day, the little cutter rolled and pitched, tossed by a sea the like of which Henry had never imagined.

Only by dead reckoning could the commander tell where he was. He had so recently left Halifax that he could not be so very far astray in his

calculations. But the *Oneida* had not been able to take a sight for three weeks, so it was not surprising, therefore, that when she gave her position to the *Iroquois* by wireless, and the *Iroquois* proceeded to the given spot, no cutter was to be seen. When Captain Hardwick found that the *Oneida* was not at the given position, he wired: "*Iroquois* is at the meeting point named. Will await you." And at once the *Oneida* flashed back the reply: "There is some mistake. We are at the position named. Will await you."

What a puzzle this situation would have been in the days before the radio compass was invented, and what a game of blind man's buff those two little cutters would have played among the fogs and mists and icebergs of the Grand Banks. But now Captain Hardwick simply telegraphed the *Oneida* to remain at anchor and give him a compass bearing. Soon Mr. Sharp came out of the compass shack and told the commander which way to go. That was all there was to it. A few hours later the two ships lay side by side. The *Oneida,* unable to see the sun for so long, was a great distance from the position she thought she occupied.

As Henry was to learn, there was great reason why a ship should float far and wide in this region of moving mountains of ice. The Grand Banks, formed by the deposit of sediment carried north

by the Gulf Stream, are enormous eminences in the bottom of the sea, like huge mountain plateaus rising in a vast valley. These banks rise upward to within two hundred feet of the ocean's surface, while the bed of the sea around them is thousands of feet deep. Naturally these great banks of sand deflect the sea currents. The Gulf Stream itself bends farther to the east. There are currents and cross currents, and wind and sea are often terrible beyond description.

Icebergs float with seven-eighths of their bulk submerged, so no large bergs can ever cross the Grand Banks; they are too deep for the shallow waters there. But in the deeper parts of the sea they stream southward from the polar ice fields in droves, scattering in every direction with wind and current. Some go with the Labrador current. Coming south, some swing up again and go northeast. Others continue straight on down to the shipping lanes. Some get into the Gulf Stream and are further deflected from their courses. And all these companies of icebergs, scattered over vast areas, one little cutter is supposed to watch and guard. Of course she cannot herd them together and drive them away from the shipping lanes, but she can and does drive ships away from the icebergs. She does this by wireless.

Day after day the *Iroquois* cruised among the

bergs, charting the position of each, noting the currents in which each floated, trying to plot the probable course of each moving mountain of ice. And every four hours the man at the wireless key sent flashing abroad a detailed warning to ships, telling where each menacing berg was located and what course it would probably take. And at night the *Iroquois* lay at rest, floating upon the bosom of the deep. It was dangerous enough to run through the ice fields in the daytime, when concealing mists made vision well-nigh impossible. To steam through them at night would be almost suicidal.

Anxious days were these for the commander of the *Iroquois*. At any moment his little cutter was likely to be disabled merely by the violence of the sea. At any moment the ship might crash into some fog-shrouded berg. Ceaseless vigilance was necessary to insure safety.

Almost greater vigilance was required to keep track of the huge bergs. Some of them towered two hundred feet in air, which meant that they were many hundred feet deep. Continually they were "calving," or throwing off great shoulders of ice, called growlers. Every time a berg calved, its centre of gravity was disturbed and its contour altered. It rode at a new angle. Thus the berg that to-day resembled a cathedral might to-morrow look like a storage warehouse.

Yet it was necessary, for the purpose of scientific observation, that each southward-floating berg be definitely identified. Oceanographers were now aboard the *Iroquois,* to study this matter of iceberg drift, that shipping might be better protected in future years. It was necessary that they should know each berg they met, no matter where they encountered it. But to recognize a berg that was continually altering its own appearance was an accomplishment that not even the learned oceanographers possessed. As yet, no way to identify bergs had ever been devised.

But Captain Hardwick was a resourceful man, and one day he declared that he had solved the problem. "I'm going to paint them," he declared. His hearers laughed incredulously. But the captain cared little for their amusement. He ordered some shells brought from the magazine and some paints from the storeroom. Then, under the captain's personal supervision, the gunner loaded shell after shell with paint. Bright reds and greens and blues and other startling colors were used. When all was ready, the captain smiled with satisfaction. "I'm going to try it out on the very next berg we see," he laughed.

An hour later the lookout announced that a berg was visible. It took the cutter more than an hour to reach it, however, for it was sixteen miles

away. It was two hundred and fifty feet high, and Henry was so astonished at this enormous mass of glittering white ice that he could find no words to describe it, or his astonishment either. The *Iroquois* worked up close to the berg, a spot was selected by the captain to aim at, high up on the broad side of the monster, the gunner elevated and sighted one of the guns, and a charge of paint went shooting out of a cannon's mouth. A second later the shell crashed against the lofty berg, and a huge crimson stain began to spread over its side. Then the *Iroquois* steamed around to the other side of the berg and repeated the dose. "If that doesn't do the trick," laughed the commander, "my name isn't Hardwick."

They were still calling the commander by that name a week later, however, for when the *Iroquois* had cruised the length of her beat and was returning, she again came upon the crimson-sided ice mass. A cross current had brought it back close to where it had been painted. Other bergs were tinted with other colors, and there was something new under the sun. The wireless broadcasts now warned vessels to look out for the berg with the green, or the red, or the blue sides. A way had been found to brand these monsters of the deep.

But of all his experiences in the ice fields, nothing so much interested Henry as the destruction

of a huge berg that came wallowing down from the frozen north and went ploughing straight along toward the tropics. Apparently neither wind nor sea nor any other agency could turn this menacing mountain of ice aside from its path. Down to the northern steamship lane it went, and the *Iroquois* went with it, warning all shipping of its presence. It was enormous. It towered more than two hundred feet in air, and was hundreds of feet long and huge in width. It did not break up into growlers when it reached the warmer parts of the sea, as most of the bergs did, but kept on, implacable, menacing, terrible.

Through the northern steamer lane and on to the southern lane, the huge block of ice steadily made its way. Thus it endangered ships going both to and from European ports. But the *Iroquois* stayed by the giant berg and warned all ships of the danger. When it reached a point farther south than the *Iroquois'* own port, and still did not disintegrate, the commander of the cutter took steps to break it up by artificial means.

A small boat was lowered, and two mines, each containing fifty-two pounds of TNT, were loaded aboard, with firing batteries and other necessary equipment. Then Lieutenant Hill, with a picked crew of oarsmen, manned the boat, towing behind it a float with a sail attached.

The party made its way to windward of the berg, where the mines were suspended from the float, so that they hung about eight feet below the surface of the water. The sail on the float was spread, and while the wind drove it toward the berg, the sailors pulled in the opposite direction. But the matter was not so simple as it seemed. The backlash of the sea kept the raft from reaching the great mass of ice, and, instead of hitting it, it floated to one side and on toward the open sea.

Lieutenant Hill caught the raft, and now an attempt was made to tow it across the face of the berg with a buoyed line, the tow rope being kept up at intervals with life preservers. But all about the base of the berg, like detritus at the bottom of a precipice, were great quantities of slush ice, little growlers, and the like, so that the mine could not be dragged against the main berg.

Then an effort was made to drive spikes into the side of the ice, so that the mines could be hung to them. It was dangerous business, standing up in a tossing little boat, with a possibility of being pitched out and crushed between it and the berg, but the sailors made the attempt without mishap—and without success. All efforts to drive anything into the ice were futile. It broke under the hammer blows, and no nail could be forced into it.

Next a grapnel was tried. The small boat was forced through the slush ice at the foot of the berg until a place was found where a little ledge in the shoulder seemed to offer a chance for a hold. The grapnel was thrown, but it slid off into the water. Again and again the effort was repeated. Each time it failed. The hooks of the grapnel would not catch in the slippery ice.

The backlash of the sea constantly showered the small boat with spray. All hands were soaked. The firing batteries became wet and useless, and the lieutenant put back to the *Iroquois* for fresh ones.

" I'm going to try the grapnel again," he called up to the commander, after making known his need for dry batteries.

" Captain Hardwick," said Henry, " why not shoot a line over that berg? Then one could hang a mine on the other end of it on the far side of the berg."

The captain leaned over the rail of the cutter and called down to the lieutenant: " Never mind about the grapnel. Our able third-class radio man says to shoot a line over the berg, so bend your energies to that. I'll get you a shoulder gun. It's worth trying." He sent a man for both the battery and the gun, and the two were passed into the rowboat.

Back to the berg went the little craft. When

it was close beside the middle of the berg, the lieutenant put the gun to his shoulder, while a sailor made sure that the line would run free. At a favorable moment the lieutenant fired high over the mass of ice. The projectile flew true, whisking the line after it. The small boat was brought close to the base of the berg, a weight was attached to the end of the shot-line, and then the boat rowed round the berg and picked up the other end of the line.

The lieutenant now had something to which to attach his mines. Together they weighed more than one hundred pounds. Carefully these were bent to the shot-line and lowered until they rested against the base of the ice, thirty feet below the surface of the sea. The small boat pulled far away, and the shot was fired. The report was a muffled roar. Immense quantities of ice came crashing down from the titantic shoulders of the berg, with thunderous reverberations. The sound was startling. The mountain of ice itself began to rise, the huge bulk lifting straight up out of the water, as though a giant hand were pushing it from beneath. Ten feet it rose, then twenty, and yet it continued to lift. At thirty feet there was a sharp crack, and the huge mass broke fairly in halves. Then it fell back into the sea, throwing out an enormous wave. Each half was a third as large as the original berg had been.

The remaining third was the broken ice that had come rattling down from the giant's shoulders.

For the first time in history an iceberg had been destroyed by artificial means, for within twenty-four hours the two huge chunks of this monster had completely disintegrated. Nothing but small growlers and slush ice encumbered the sea. TNT had been more than a match for the ice king.

CHAPTER XXII

VICTORY

FOR two weeks the *Iroquois* herded the floes of ice. Then the *Oneida* relieved her and the *Iroquois* sailed to Halifax, where she renewed her supplies and equipment preparatory to another two weeks of struggle with the army of the ice king. So it went for long months, but finally the last of the bergs disappeared. The *Oneida* had already gone back to Boston. Now the *Iroquois* bade farewell to the fogs and storms of the Grand Banks and gleefully headed for her home anchorage in the shelter of old St. George.

But ere she reached her longed-for haven, duty once more turned her prow away from home. The little cutter, driving as fast as steam and the eagerness of her crew could send her, was far off the New England coast when, shortly after evening mess one foggy day, Henry picked out of the air that ever-startling call, " QST—QST—QST — QRT — QRT — QRT — SOS — SOS — SOS—SOS—SOS: Steamers *Wilmington* and *Hiawatha* in collision. Position sixty-four ten west, forty-three north."

It was the *Wilmington's* operator who was sending. The instant he signed off, Henry's key

was sounding. He flashed the *Wilmington's* call, KGD, and asked, "Do you require assistance?"

"Yes," came the answer. "Require assistance immediately."

Henry called a sailor and sent the message to the commander. Then he returned to his key, and again signaled the *Wilmington.* "How badly are you hurt?" he queried.

"*Wilmington's* bow crushed. Number one hold full of water. *Hiawatha's* stern damaged. Propeller broken. *Hiawatha* in tow. Making for Halifax. Speed three knots an hour."

The sailor came hurrying back with a message to the *Wilmington.* Henry handed him the communication he had just received, and flashed out the message the sailor had brought, "Cutter *Iroquois* to your assistance. Hardwick, Commander."

With all the speed he could muster, Captain Hardwick was coming, too. On through the fog and the dark the little cutter went rushing as fast as steam and muscle would drive her. In the engine-room grimy oilers tended their machines as carefully as a mother watches her babe. Like demons the firemen fed the furnaces, and the coal-passers worked unceasingly. Through mist and fog and surging billow the *Iroquois* drove on and on. At ten minutes of nine Henry caught

another call, "Same course. Going about on account bad steering. Call first fifteen minutes each hour."

An hour later came the cry, "We have stopped now. Unable to proceed. When can we expect you?"

By every means at his command the captain of the *Iroquois* tried to hasten the little cutter, but already every soul on board was working at top capacity. Under forced draught, in heat almost unbearable, the men in the fireroom fed and stoked the fires with an energy well-nigh superhuman. From stem to stern the little cutter trembled and shook with the intensity of her efforts. Never had she traveled faster, yet hours must elapse before she could reach the injured steamers. Reluctantly Henry sent the discouraging word. And hardly had he finished, before there came to him the startling call, "Have you anything for me? Antennæ may soon carry away."

It was just ten o'clock. Both Mr. Sharp and Jimmy had joined Henry in the wireless shack. They looked at one another with questioning, fearful eyes.

"She must be damaged more than we thought," said Mr. Sharp. "God grant she stays afloat till we get there."

At ten thirty-five came a reassuring flash from

the *Wilmington:* "Have cast loose from the *Hiawatha.* Cannot steer. Heading into wind. Will proceed as wind abates. Water not gaining. Antennæ will carry away soon. Will answer your light by rockets. Will fire rockets every half hour."

Jimmy rushed the message to the commander on the bridge. Mr. Sharp began to look very sober. "She must be worse than we think," he repeated. "I can't understand why her antennæ should be about to carry away. It must be blowing hard. A storm is coming where she is. I'm afraid of that wind. Her forward bulkhead is all that keeps her from sinking; it confines the water to her number one hold. But if the sea makes up, the pressure will smash that bulkhead, sure. The *Hiawatha's* helpless now. She'll drift fast before the wind. We've certainly got our work cut out for us."

Grave, indeed, was the face of the commander, when he learned what had occurred. "Tell Mr. Sharp to get into communication with the *Hiawatha* at once," he directed, "and have her keep in touch with us. The *Wilmington* is evidently much more badly injured. We must go to her first and get her men. We'll steam for the *Hiawatha* the minute we have rescued them."

On rushed the cutter. Through fog and dark

she drove, fighting with every ounce of her power to win her way to the side of her crippled sister. Without, the night was black as pitch. From the sea came that ominous, moaning sound that betokens a storm. Aloft the cordage shrieked and wailed. As the ship rushed on, the wind rose steadily higher.

At eleven thirty-five came the message, "We are firing rockets now."

At midnight the *Wilmington* sent her position. In all her hours of struggle she had won but pitifully few miles toward safety. When Henry had copied down this message, he laid aside the head-phones and surrendered his place to Jimmy. He had worked two hours overtime, but no one in the radio shack had given a thought to time. They were tense with anxiety about the *Wilmington.* Now Henry took his message to the captain. Mr. Sharp told him he had better get some sleep, but sleep was impossible. Every minute the wind was coming stronger, and the sea was getting up. The thought of those wretched sailors, waiting helplessly for the *Iroquois,* their vessel likely to sink at any moment, moved Henry powerfully. Never could he forget the sight of those poor fellows from the *Iroquois* that he had seen struggle so hard for their lives in the sea off Cape Cod. The men of the *Wilmington* might at any moment be

in the same situation. With such thoughts surging through his excited brain he could not sleep, so he returned to the radio shack.

At half-past three in the morning a rocket was seen. Long before this the *Iroquois* had broken out her searchlight, shooting a great finger of light through the darkness ahead, then pointing the beam upward toward the heavens, so that it could be seen afar. The cutter rushed on, crew and commander heartened by the streaks of fire that now shot heavenward at intervals in the darkness ahead. By four o'clock the *Wilmington* herself could be seen plainly, and a little while later the *Iroquois* lay close alongside, her searchlight playing on the injured ship.

The freighter's prow was bent, and she had settled a little forward, but otherwise she appeared to be in good condition. On the far side of her was a gaping hole in her nose that was not visible from the *Iroquois*. She looked as though she were still good for a struggle.

But the crew of the cutter had not long to speculate about the condition of the disabled ship. Down from her davits dropped the huge lifeboat full of men. A moment it paused alongside, while the sailors who had manned the falls slid down them into the boat. Then the little craft was shoved clear of the crippled ship and pulled over to the *Iroquois*. Up the side of the cutter

the frightened sailors scrambled like terrified sheep. Plainly they were foreigners. And the commander of the *Iroquois* opened his eyes wide, when he noted that many of them were Englishmen. He was not surprised that the others were panic-stricken.

The captain of the *Wilmington* was the last man to come aboard. His expression was pitiful. "I could have saved my ship," he cried, "if it had not been for this cowardly crew. The forward hold is full of water, but the bulkhead is holding well. We could have made Halifax in a few hours."

The executive officer was standing by. "Captain Hardwick," he said, "will you allow me to take a volunteer crew and work the *Wilmington* into Halifax? It's a crime to abandon a ship like that."

"You may try it, Mr. Harris, if you wish."

The executive officer turned and faced the crew of the *Iroquois,* who were gathered forward of the ladder. "How many of you are willing to help me work the *Wilmington* into Halifax?" he cried.

The crew sprang forward as one man. The commander of the *Wilmington* strode over to Mr. Harris. "I'm going back with you," he said. Half a dozen of the Englishmen followed. "We're with you, Captain," they said.

The executive officer chose twenty men from the crew of the *Iroquois*. They climbed down the ladder into the *Wilmington's* waiting boat, the Englishmen following. The executive officer, who had been below all the evening, drew off his low shoes and began to pull on high laced boots.

Henry ran out of the radio shack. "Please, may I go?" he cried.

"No," said the executive officer. "This is no place for boys."

Henry fell on his knees and began to lace up the executive officer's boots. "Please, Mr. Harris," he pleaded. "You can't get along without a radio man."

"The *Wilmington's* own radio man is going back," said the executive officer shortly.

"But he will need a relief."

"Not before we reach Halifax."

"Then let me go and sling chow. You haven't any mess boy. I can do other jobs between meals."

By this time the executive officer was almost in the boat. He took a last look upward.

"Please, Mr. Harris," pleaded Henry, "please let me go."

"Come on, then," growled the executive officer. "But it's no place for boys."

Eagerly Henry followed his leader into the waiting boat. The craft was pushed away from

the cutter and strong arms soon carried her alongside the *Wilmington.* In a few moments more the lifeboat swung at her davits, and the volunteer crew had scattered to their respective posts. Slowly the crippled ship got under way. She seemed to ride safely, and the prospects for saving her were excellent. For a little while the *Iroquois* lay motionless, while her commander studied the movements of the *Wilmington.* Then, satisfied that she could make her goal, Captain Hardwick signaled the men in the engine-room, the cutter began to move, and soon was steaming steadily away from the *Wilmington,* to begin her search for the *Hiawatha.* But Captain Hardwick had not seen the gaping hole in the far side of the *Wilmington's* nose.

On board the *Wilmington* every one was working at top speed. Men who had never passed coal before, now hustled fuel for the furnaces. The few experienced firemen in the volunteer crew were supplemented by inexperienced men. The engines were tended, the pumps were kept running, the ship was navigated, and all was done with heroic determination. Even the firemen, like everybody else, worked double shifts. The man who was to cook passed coal for hours, then washed and made hot coffee and sandwiches, which Henry passed to the men to munch while they labored. Then Henry went below to pass

coal. Everybody on board was working with dogged determination. They were going to get the *Wilmington* into Halifax if it was humanly possible.

Nobly the crippled freighter responded. She forged through the waves faster and faster until she was making seven and a half knots an hour. With satisfaction Mr. Harris sent the good news to the commander of the *Iroquois*. But even at seven and a half knots an hour, the *Wilmington* had a long journey before her, and all the while the sea was rising.

Dawn came, but no sun followed to light the day. The mists and fogs increased. The wind bellowed with ever-increasing force. The seas mounted upward, higher and higher, and with every passing hour the storm grew worse. Viciously the waves crashed against the broken nose of the *Wilmington*. Slower rode the crippled steamer, and slower still. Both wind and seas held her back, and her commander dared not drive her with the full power of his engines. The strain on the bulkhead was terrific.

Noon came. The *Wilmington* was still moving, though slowly. The *Iroquois* had found the *Hiawatha* and taken her in tow. The *Oneida* was rushing out from Boston to help. At regular intervals the *Wilmington's* wireless man sent some message to the *Iroquois*. By early after-

noon these became alarming. The pumps were no longer holding their own, and water was gaining in the hold of the *Wilmington.* By two o'clock the disabled ship was down by the head. She could no longer buck the seas.

A little later her commander wired to Captain Hardwick, " Am trying to steam backward."

When he got the message, Captain Hardwick was worried, indeed. " They'll never make it," he declared to Mr. Sharp. " Ask the *Oneida* to hurry. We shall likely have to abandon the *Hiawatha* and go back to the *Wilmington.*"

On board the *Wilmington,* the volunteer crew was making a superhuman effort to carry on. The attempt to steam backward was unsuccessful. Lower settled the nose of the ship. It was desirable to make a sea anchor, to hold the ship's head to the waves. But now the combers were crashing over the settling bow of the steamer, and water was pouring into her hold through hatchways. It was impossible for men to go below and get the materials necessary to make the sea anchor. Disabled, sinking steadily lower in the bow, the crippled vessel now rolled helplessly in the sea. It was merely a question of time until she should go under.

At three o'clock the *Wilmington* flashed a message to the *Iroquois.* Mr. Sharp went white when he read it. " We are rolling helplessly

and settling fast. Vessel is doomed. Am preparing to abandon ship. Will remain till last minute. Need help immediately."

The instant Captain Hardwick read the order, he cast loose from the *Hiawatha* and headed about to save his own men. He sent a reassuring message to the *Wilmington,* then another to the *Hiawatha,* telling her to make a sea anchor, and keep in touch with the *Oneida,* which would reach her in a few hours.

All the while wind and sea grew worse. But little did the commander of the *Iroquois* care. He had weathered many a storm that was worse than this. He thought of only one thing: he must get to his men. Relentlessly he pushed the cutter. He drove the crew. He was everywhere, thinking of every contingency, preparing for every emergency. He had the sick bay prepared. He got cots and medicines in readiness. He warned the cook to be ready with hot drinks and food. Men and ship alike responded to the dynamic influence of their commander and drove the ship at a pace incredible.

As the sturdy cutter tore her way through the seas to reach the *Wilmington,* that doomed vessel sank lower and lower in the head and rolled ever more helplessly in the waves. Yet she floated. The bulkhead still held. The pumps could still be operated, and the volunteers were working

feverishly to keep up steam and keep the pumps at work. Even though the water gained, it gained but slowly.

Darkness came. The cutter was still far away. There were few rockets left to fire, but every half hour one was shot skyward. A great flare was made on deck, but with waves and spray dashing over the ship it was difficult to keep the beacon burning. All the while the wireless men kept in touch with the *Iroquois*. At times Henry relieved him.

"We are listing very badly," he called. "We cannot stay afloat much longer. How long will it take you to reach us?"

Afar off, the watchers on the *Wilmington* could now discern the beam from the searchlight of the *Iroquois,* like a great pencil of light reaching from sea to sky. Slowly it grew more distinct, but, oh, so slowly. The efforts to keep the beacon burning were redoubled. Once more Henry sent flashing a cry for help: "We are sinking fast."

Meantime, with some planks from one of the after holds, the men had made life rafts. These were placed close to the stern, ready to be pitched into the sea at a second's warning. A single boat remained—the one that had brought the crew from the *Iroquois*. All the others had been lost, some in the collision, while others had been torn

away by the waves as the *Wilmington* rolled in the trough of the sea.

On came the *Iroquois,* though she was yet far away. "We are leaving immediately," Henry signaled at the direction of Mr. Harris. "We have made some life rafts. Stand by to pick us up."

When he had sent the message, Henry rejoined his commander on the after deck of the *Wilmington,* where all the men were now gathered. The bow of the freighter had sunk alarmingly. The big lifeboat still swung at the *Wilmington's* davits, but these were peculiar, and held the boat so that every roll of the ship threatened to submerge the little craft. To save it from destruction, it was necessary to get it into the sea.

"Stand by to lower the lifeboat," shouted Mr. Harris.

The boat was made free and brought even with the rail. Every member of the *Wilmington's* own crew now on the ship piled into it. One sailor from the *Iroquois* leaped after them.

"Lower away," called the executive officer at a favorable moment, "but be sure not to cut the painter."

Yet no sooner was the little craft afloat than one of the freighter's panic-stricken men whipped out his knife and severed the line that held her

to the steamer. Like a shot she was flung far from the side of the *Wilmington.* The men on the *Iroquois,* waiting to slide down into the lifeboat, were left stranded on the deck of the sinking vessel.

"Pull her back," roared the executive officer.

The men in the lifeboat bent to their oars, but they were only merchant sailors, and knew little about handling oars. They were utterly unable to sweep the lifeboat up against the wind. Though they pulled hard, the craft was driven steadily farther and farther away in the darkness. In a moment it was lost to sight.

"Quick!" cried Mr. Harris. "Over with your life rafts." The sailors leaped to the rafts and slid them over the rail into the sea.

"After them," shouted the executive officer. "It's your last chance. She'll sink in a minute. Catch your rafts and swim away, or the suction will take you down."

Into the sea went the sailors, leaping from the *Wilmington's* rail far, far out into the heaving waters. In a moment only Henry and his commander were left.

"Over with you, Harper," ordered the executive officer. "Try to get to one of the rafts."

Henry looked out over the side of the ship. All was inky darkness. The *Iroquois* could be seen coming on apace, but she was still one thou-

sand yards away. The winds were lashing the sea with fury. The tumult of the waters was terrifying to hear. Henry was frightened as he had never been before, but he did not lose his head. " I will go when you go," he said.

In his hand Mr. Harris held a long-barreled flash-light for signaling, with a patent contact strip about the handle. Now through the blackness of the night he was sending flashes of light, to direct the oncoming cutter. Astonished, Henry saw that his commander was sending a message just as he himself had learned to do through the cutter's blinkers, with dots and dashes of light. He stood motionless and read the message, " Please hurry. My men are in the water."

A feeling of inexpressible admiration came over Henry. Here was a man voluntarily risking his life to save his men. As calmly as though he were safe ashore, instead of standing on the threshold of death, the executive officer continued to flash his directing signals. Then another thought came to Henry. " He's a Coast Guard officer. So am I. I'll try to act like one." He became calm. And as he watched his big superior, so quiet and unafraid, fearful only lest the *Iroquois* should be too late to save his men, something of the same feeling of strength and courage came to Henry.

"I'll stay by him to the end," he muttered.

He had not long to wait for the end. The *Wilmington* suddenly began to settle rapidly by the head. Her bulkhead had given way and the sea was rushing in. As the freighter settled, she likewise turned. The executive officer crawled aft, out over the taffrail, and continued his signaling. A sweep of his torch, as he crawled to the rail, revealed his feet. He was still clad in his heavy boots.

"You haven't taken your boots off, Mr. Harris," said Henry, quietly; and whipping out his knife, he knelt once more at the feet of this man who was above fear, cut the laces, and dragged off the heavy boots. Before he had time to remove his own shoes there was a terrific crash as the boiler exploded, and the stern of the *Wilmington* suddenly rose high in air.

"Jump!" shouted the commander; "and swim as far away as you can."

He clutched Henry's hand. Together they leaped far out from the ship. In another second they were deep under the chilling water, and Henry was fighting to reach the surface.

He came up gasping for breath. The ship was just plunging beneath the waves. Above the roar of the winds Henry could distinguish the sucking noise as she disappeared. He felt himself pulled toward the spot where the ship

had been. With all his might he strove against the suction. Presently he felt that he had struggled free from it. He swam about, calling for Mr. Harris. After a few minutes he heard an answering call in the darkness. It was his commander. Rejoiced, he swam toward the sound. Presently he bumped into something. It proved to be one of the life rafts. He got up on it and called to Mr. Harris. The latter swam to the raft and got on. No one else was to be seen. From time to time they heard shouts.

The *Iroquois* was now near at hand. On she came at full speed. With her searchlight she was sweeping the waves. When she came to the first of the men in the water, she hove to. One after another her boats were lowered until all were afloat. In the bow of each rode a sailor, armed with a powerful light. Over the waves coursed the little boats, calling, searching, rescuing, for man after man was plucked from the foaming waters and lifted to safety. Finally one of the boats came toward the executive officer and Henry. The two shouted in unison. Their cries were heard, and the boat came rapidly toward them, but long before it reached them a sudden wave came crashing over the raft and Henry lost his grip and was swept off into the tumultuous sea.

He struggled to fight his way back, but he was almost paralyzed with cold and worn out and exhausted. He feared he could never make it. Suddenly he found himself in a grip of iron. The executive officer had swum after him. They regained the raft. Desperately now Henry clung to the planks, while his superior officer held fast to him with his legs, all the while clinging to the planks with his hands. The small boat came up and the two were lifted aboard.

What happened after that Henry hardly knew, but presently he found himself in the engine-room of the cutter. He was being stripped and rubbed. Some one was giving him hot coffee to drink.

When he was able to get about the ship, he inquired for the others who had been in the sea. The lifeboat, so clumsily manned, had capsized, and one of the English sailors had been drowned. Every other man who had gone to the *Wilmington* had been rescued. He learned that the *Oneida* had found the *Hiawatha* and that both boats were safely on their way to Boston.

Two days later the *Iroquois* lay peacefully at her anchor off St. George. Rollin came to the wireless shack looking for Henry, who had entirely recovered from his hard experience.

" The captain wants to see you, Mr. Harper," he said.

Henry rose and made his way to the cabin, wondering what the commander wanted now.

"I suppose you will be going to see your friends at your first opportunity, Henry," said the captain.

"Indeed I shall, sir."

"You'll have a lot to tell them," smiled the commander.

"Won't they be surprised when they hear all I've got to say!"

"Mr. Harris has been telling me about the last moments of the *Wilmington,*" continued Captain Hardwick. "Of course your probationary period was up long ago, as you know, Henry, but you haven't had a chance to see your friends since then. It occurred to me that when you tell them you have passed your probationary period satisfactorily, you might like to add that Captain Hardwick says you have qualified for the Coast Guard in every way. Do you understand, sir? In *every* way."

"Thank you, sir," said Henry. "Thank you very much;" and with heart beating high he marched from the cabin and made ready to go over to Manhattan to tell Willie and Roy the news of his permanent appointment as third-class radio man on the good ship *Iroquois.*

SCOUTING BOOKS BY

Walter P. Eaton

The Boy Scouts of Berkshire

A story of how the Chipmunk Patrol was started, what they did and how they did it. 313 pages

The Boy Scouts of the Dismal Swamp

This story is a continuation of THE BOY SCOUTS OF BERKSHIRE and is an unusually interesting book on Boy Scouting. 310 pages

Boy Scouts in the White Mountains

Intimate knowledge of the country as well as of the basic principles of Boy Scouting characterizes this new volume by Mr. Eaton. 320 pages

Boy Scouts of the Wildcat Patrol

A Story of Boy Scouting

This story is a continuation of the history of Peanut and the other characters which appeared in previous volumes by this author. 315 pages

Peanut — Cub Reporter

A Boy Scout's life and adventures on a newspaper

A rattling newspaper story with Peanut as the central character — he who has figured so prominently in the author's four Boy Scout books. 320 pages

Boy Scouts in Glacier Park

The adventures of two young Easterners in the heart of the high Rockies. The volume gives an accurate and descriptive picture of this Park, and might well be used as a guide book. This book is illustrated by wonderful photographs. 336 pages

Boy Scouts at Crater Lake

A Story of the High Cascades

A very valuable and intensely interesting story of the experience of two boys at Crater Lake Park. Their experiences and adventures will thrill every boy reader, and so accurate is the information relative to the Park itself that one may easily feel that this author has been over every foot of it himself. 320 pages

Boy Scouts on Katahdin

A Story of the Maine Woods

A wonderful story of scout life, full of interesting scenes of boy activities. Best of all it is an accurate picture of the famous Mt. Katahdin, up which the author and his boys climbed. It is accepted as being one of the most difficult mountains to ascend east of the Rockies.

RADIO STORIES BY

Lewis E. Theiss

The Young Wireless Operator—Afloat

Or How Roy Mercer Won His Spurs in the Merchant Marine

Storm, fog and accidents at sea, all lose much of their danger when aboard each vessel is an up-to-date wireless outfit and a staunch, loyal boy like Roy Mercer to operate it. 320 pages

The Young Wireless Operator — as a Fire Patrol

Being the Story of a Young Wireless Amateur Who Made Good as a Fire Patrol

Through the experiments of this young Pennsylvania boy the radio has been introduced as the means of communication among fire patrols the country over. This is his story. 352 pages

The Young Wireless Operator—With the Oyster Fleet

How Alec Cunningham Won His Way to the Top in the Oyster Business

Radio communication is essential to success in every great sea-going industry and in none more than with the oyster fleets off our coast. Alec used it to advantage for both the owner of the fleet and himself. 328 pages

The Hidden Aerial

The Spy Line on the Mountain

Never has the radio proved its value more remarkably than in the great war. This is an exciting story of how it was used on several occasions with great success. 320 pages

The Secret Wireless

The story of how the Camp Brady patrol used their knowledge of the wireless at the beginning of the great war. 320 pages

Wireless Patrol at Camp Brady

A story of how the boy campers "did their bit."

The Young Wireless Operator—With the U. S. Secret Service

The Wireless Operator — With the U. S. Coast Guards

BOOKS BY

Com. Thos. D. Parker, U. S. N.

Young Heroes of the American Navy

Being stories and adventures of the most noted young heroes of our Navy

The naval history of our country has developed many young men who through patriotism have performed many acts of daring heroism and whose names are in the hall of naval fame. The book is fully illustrated with reproductions of the events which the various characters made memorable.

320 pages

The Cruise of the Deep Sea Scouts

Or, Boy Scouts Afloat. Illustrated with colored frontispiece

The activities of the Boy Scouts Afloat are today more interesting than ever before. Deep sea scouting is one of the most important activities of the Boy Scout Organization and the call of the sea is as strong as the call of the woods or the mountains, while the life of the sailor promotes the same discipline and training as does the life of the soldier.

320 pages

The Spy on the Submarine

A thrilling story of adventure on board a submarine destroyer and upon a submarine itself. This is an up-to-date story, full of the experiences which are daily happening and serving to make a large part of the history of this great war.

320 pages

The Air Raider

Winning the Gold and Silver Chevron

Our navy and shipbuilding yards were exposed to many dangers from enemies both within and without during the war. Few realized it, but Commander Parker did. THE AIR RAIDER gives a thrilling picture of what might have occurred in one yard, if certain loyal young men had not kept an ever watchful eye open for every emergency.

Sailing under Sealed Orders

A Story of the Navigator of the "Greenville." Beautiful colored jacket.

"Sealed Orders" always sends a thrill through every "Jackie." "What Port" and "what's up" are two principal questions asked. The author knows what boys like and Uncle Sam's Navy is an open book to him.

288 pages

Mr. Parker's stories are based on his intimate knowledge of naval affairs. The experiences which his characters go through will show to every reader of his books just what is happening or may happen within the gates of any of our Navy Yards, or on the high seas on board one of our great battleships. They are true pictures of naval life afloat and ashore.

By Captain Edw. L. Beach, U.S.N.

Ralph Osborn—Midshipman at Annapolis

A STORY OF ANNAPOLIS LIFE. 336 pages

Midshipman Ralph Osborn at Sea

A STORY OF MIDSHIPMAN LIFE AT SEA, AND CONTINUING "RALPH OSBORN—MIDSHIPMAN AT ANNAPOLIS." 360 pages

Ensign Ralph Osborn

THE STORY OF HIS TRIALS AND TRIUMPHS IN A BATTLESHIP'S ENGINE ROOM. 338 pages

Lieutenant Ralph Osborn Aboard a Torpedo Boat Destroyer

BEING THE STORY OF HOW RALPH OSBORN BECAME A LIEUTENANT AND OF HIS CRUISE IN AN AMERICAN TORPEDO BOAT DESTROYER IN WEST INDIAN WATERS. 342 pages

The "OSBORN" books show the steps of advancement in the American Navy, from Cadet to Lieutenant, with a true picture of naval life as it is. The information given is authentic, and many of the related incidents were actual occurrences. They are books of information and adventure combined.

Such stories as these are not only interesting to the young people but carry with them an insight into naval life which will make the reader have more respect and appreciation of the work of Uncle Sam's navy. They are first-class stories for boys—clean, good, and worthy of a place in the home, private or school library.

"These are the best stories on the United States Navy which have ever been written. They give a clear insight into the workings of this important branch of American government and the characters are true to life as befits a book written by such a man as Commander Beach, who has enjoyed an enviable career ever since he entered the United States Navy."—*New York Times.*

These volumes are all fully illustrated
Price, Cloth,

W. A. WILDE CO. Boston and Chicago

By William Drysdale

The Famous

"Brain and Brawn" Series

No boy should grow up without reading these books

The Young Reporter

A STORY OF PRINTING HOUSE SQUARE. 300 pp.

A genuine boys' book for genuine boys. Full of life, clean, clear cut and inspiring. It will enlist the interest of every stirring and wide-awake boy.

The Fast Mail

THE STORY OF A TRAIN BOY. 328 pp.

The story of the adventures of a boy who fought his way to success with clean grit and good sense, accomplishing what is within the power of every American boy if he sets about it. It is full of movement, sound in sentiment, and wholesome in character.

The Beach Patrol

A STORY OF THE LIFE-SAVING SERVICE. 318 pp.

A spirited picture of the labors and dangers to which members of the life-saving service are exposed and which few realize.

The Young Supercargo

A STORY OF THE MERCHANT MARINE. 352 pp.

This book has all of the interest of "Oliver Optic's" books, with none of their improbabilities.

The Volumes are Fully Illustrated.

W. A. WILDE COMPANY

Boston and Chicago

LIBRARY OF CONGRESS
00025662829